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ILLUSTRATION.

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Blackfriars.

IN spite of repeated attacks upon its integrity, the district of Blackfriars still retains numerous relics of the past which keep alive the memory of the days when it was making its history. In 1760 the western extremity of the precinct was broken into in order to form a proper approach to the new Blackfriars Bridge. In 1863–4 still further demolitions were made on the same side to obtain space for the Ludgate Station of the London, Chatham, and Dover Railway, and the southern side has now been cleared for the new Queen Victoria-street. Yet Time has dealt kindly with the interior, and the little courts and alleys remind us of what occurred in the place two and three centuries ago. Playhouse-yard points to the site of the theatre in which Shakspeare acted; Ireland-yard is called after William Ireland, whose name appears in the deed of conveyance to Shakspeare of a house in that place; and in Church-entry is a monument to the memory of the minister of the parish when Shakspeare frequented its streets. Most parts of London have an interesting history, but few can compete with Blackfriars in the variety of incidents that go to form that history, or in the length of time over which the history has been spread. The situation of the district at the extreme south-western corner of the City made it a position of importance, and it appears to have been esteemed as such by the Romans. In 1843, when excavations were made for the purpose of improving the sewers, a portion of the old wall was discovered which offered so great a resistance to the destructive efforts of the labourers that it had to be tunnelled under. Here a Roman monument was discovered which had been erected to the memory of a soldier who held the office of *Speculator*, that is, one who preceded the legion and watched the movements of the enemy. The name of the man was Celsus, and he belonged to the Second Legion. The Roman wall, when orginally built, extended in a direct line from Ludgate to the Thames, but when the Dominican Friars were given the district they were allowed to take in a portion of ground farther west, and the wall was rebuilt so as to extend to the Fleet river.

One of William the Conqueror's Norman followers, the Baron of Mountfiquet, built a castle on the banks of the Thames, between the Fleet River and Baynard's Castle, which was afterwards coveted by King John, who banished the builder's successor, Richard Mountfiquet, and took possession of his castle.

In the year 1215 Dominic de Guzman founded, at Toulouse, the order of Preaching Friars, the members of which have been named Dominicans, from their founders, Jacobins from the Convent of St. James, in Paris, and Black Friars from the colour of their garments. Thirteen of these friars came over to England in 1221, and being favourably received, they settled on a piece of vacant ground in Holborn, where they built themselves a house. This lasted them for about half a century; but at the end of that period they had so largely increased in numbers that they began to look about for a larger residence. Fortunately for them they were very popular, and had secured a host of influential friends, who obtained for the fraternity a large piece of ground suitable for the purpose of building a more spacious church and residences for the prior and brethren of a more convenient character. In consequence of this grant the friars moved from Holborn, and transferred themselves to the banks of the Thames. Their old house was given to Henry Lacy, Earl of Lincoln, and its site is still known as Lincoln's-inn.

In the year 1276, Gregory Rokesley, mayor, and the barons or aldermen of the City, granted to the Black Friars, and gave in trust for their use to Cardinal Robert Kilwarby, Archbishop of Canterbury, "two lanes or ways next the street of Baynard's Castle, and also the tower of Mountfitchit, to be destroyed." Greater favours were still in store for them, and a few years after they had obtained this grant of ground, Edward I. allowed them to pull down the old City wall, and to take in all the land to the west as far as the Fleet River. Moreover, the king intimated to the mayor and citizens his desire that the new wall should be built at the expense of the City. He wrote to them as follows:—"Whereas we have granted you, for the aid of the work of the walls of our City, and the closure of the same, divers customs of vendible things coming to the said City for a certain time, we command you to cause to be finished the wall of the said City now begun near the Friars Preachers, and a certain good and comely tower at the head of the said wall, within the water of the Thames," &c. The wall was rebuilt, as appears by the grant to make a circuit inclosing the entire precinct "along behind the houses from Ludgate to Fleet Bridge, thence along the Fleet River to the River of Thames." Edward I. heaped favours upon the friars, and when his beloved wife Eleanor died, her heart was deposited in the church previously to the burial of her body at Westminster. The list of eminent persons whose bodies were buried in the Black Friars' Church is an extremely long one, and one reason for the strong desire that was exhibited by the noble and wealthy to sleep their last sleep under the shadow of the convent-walls may be found in the belief that "to be buried in the habit of the order was a sure preservative against the attacks of the devil." The church was large and handsome, "richly furnished with ornaments within," and the fraternity, who came over to England under vows of poverty, had surrounded themselves with the various signs of wealth. Stow mentions some of the historical occurrences that have made the friary famous; for instance, a parliament of Henry VI. was held here in the year 1470, and the Emperor Charles V. lodged at the Prior's house in 1522. When he was invited by Henry VIII. to come to England, the Palace of Bridewell was prepared for his residence, but when he came, he placed his attendants there, and preferred himself to lodge with the Black Friars. In consequence of this determination a gallery of communication was thrown across the Fleet, and an opening cut through the city wall. In 1524 a Parliament was begun at the Black Friars, and as it was adjourned to Westminster amongst the black monks, and ended in the king's palace there, it gained the name of the Black Parliament. As the object of the Parliament was to demand a subsidy of 800,000*l.* to be raised on goods and lands, the namers probably had a double meaning in so calling it. The most interesting scene enacted in the Black Friars was one which the pen of Shakspeare has made familiar to all. On the 21st of June, 1529, the two Cardinals, Wolsey and Campeggio, sat in judgment upon the question of the proposed divorce of Henry VIII. and Catharine of Aragon, but the haughty Wolsey shortly afterwards took a lower place in the same hall, and Catharine had her revenge, when a few months later a sentence of *præmunire* was passed against Wolsey by a Parliament which held its sittings in Black Friars.

A few years more and the Act for the suppression of the religious houses throughout the kingdom took effect. The Black Friars had to leave their home, and the precinct that still retains their name knew them no more. Some names, such as Pilgrim-street, Creed-lane, and Holiday-yard still exist to remind us of the time when the place was under the government of a religious body. It is probable that the pilgrims who passed through London *en route* for the shrines in various parts of the country rested in this convenient spot, as all kinds of offerings could be bought in the neighbourhood, and those who were bound for Canterbury could easily cross to the opposite shore of Southwark, which was the starting-point for that place. Before taking final leave of the Dominican, it is worth noting how various have been the estimates of the virtues of the friars at different periods. When the country was overrun by the mendicant orders, in the thirteenth century, they came as reformers, crying out against the indolence of the monks; in course of time, however, they became rich and fell into worse repute than those they censured. Literature, as illustrated by Piers Plowman and other works, is full of denunciations against the evils that the people suffered

from their presence, yet after the dissolution, when trouble had overtaken them, a change took place in public opinion, and we find in Shakspeare's pages the friars held up as models for our esteem. This was not merely Shakspeare's own feeling, because the estimable qualities of Friar Lawrence are depicted in the poem upon which the dramatist founded "Romeo and Juliet."

The privileges attached to the great Home of the Black Friars formed a constant source of contention with the outer world. On one occasion a prior was forced to pave the streets without the wall joining to the precinct, and after a time a cage, or small prison, was set up there by the City. This the prior pulled down, saying,—"Since the City forced me to pave the place, they shall set no cage there on my ground." Immediately after the dissolution, the City, thinking the troubles were over, instructed their Mayor to set forth their claim to the liberties; but Henry VIII. soon put his foot down on this interference, and telling him not to meddle, said that "he was as well able to keep the liberties as the friars were." In consequence, the precinct, with its sanctuary, was a thorn in the side of the Corporation for many a year. Edward VI. sold the hall and prior's lodgings to Sir Francis Bryan, and granted to Sir Thomas Cawarden, Master of the King's Revels, "the whole house, site, or circuit, compass, and precinct of the late Friars Preachers within the City of London." The Master of the Revels was an officer of the Royal household, whose business it was to keep the tents and pavilions belonging to the king, which were often (if not always) sent with him on his removes or progresses. In the first year of Edward's reign the properties were removed from Warwick Inn "to the late dissolved house of the Blackfriars." The Office of the Revels was afterwards removed to the old hospital of St. John of Jerusalem, but during Sir George Buc's incumbency that house was taken from him, and given by James I. to the Lord Aubigny. The new office was then situated on St. Peter's-hill. One of the duties of the Master of the Revels was to superintend the movements of the various companies of actors, and when the children of the King's or Queen's Chapel performed before the king or queen, it was he who provided them with dresses.

Sir Thomas Cawarden pulled down the Friars' great church and also the lesser one of St. Ann, which had been built within the friary and made parochial for the use of the lay inhabitants of the place. In Queen Mary's reign, however, Cawarden being forced to find a church for the inhabitants "allowed them a lodging chamber above a stair," which fell down in the year 1597. In Elizabeth's reign a new church was erected and dedicated to St. Ann, but that building being burnt in the Great Fire, the parish was united to that of St. Andrew by the Wardrobe.

During the time that the friars were in possession, when the precinct was walled in and had its four gates, there were many shops there, the occupiers of which were allowed to carry on their trades, although they were not free of the City. After the dissolution many great persons seem to have taken up their residence in this quarter. Lords Buckhurst, Cobham, and Hunsdon were among the most distinguished of these early residents, and the *Calendars of State Papers* contain several notes of these noblemen. On August 13, 1571, we find notice of a letter from Lord Buckhurst to Lord Burghley, which "gives an account of his receiving the French ambassador at the Blackfriars, where he landed." Under date Feb. 28, 1572, is registered the "deposition of Rd. Higford, relative to certain letters Mr. Thos. Cobham had shown him in Lord Cobham's house, of which he had abstracted two." In April, 1580, there is a "note of such liberties as the inhabitants within the precincts of the late dissolved houses of the Black and White Friars claim to have exempt from the City of London; showing the queen's interest therein, and the names of the honourable and worshipful persons now inhabiting the same." The names are as follow:—"The Earl of Lincoln, Lord Admirall of England; the Bishop of Wigorne; the Lord Cobham; the Lord Cheynie; the Lord Lawarr; the Lord Russell; the Lord Clinton; Sir Ambrose Jermyn; Sir Nicholas Poynes; Sir Thomas Gerrarde; Sir William Morgan; the Lord Buckhurst; the Lord Chief Justice of England; the Lord Chief Justice of the Common Pleas; the Master of the Rolls; the Queene's Sollicitour; Mr. Thomas Fanshawe; Peter Osborne; Mr. Powle, of the Chancery." On June 24, 1582, is the following note:—"Examinations of several persons touching the affray at the Blackfriars between the servants of the Earl of Oxford and Mr. Knevet. Gastrill, the Earl's man, hurt." Queen Elizabeth often visited one or other of her courtiers in the Blackfriars. On one occasion, in 1600, she attended the wedding feast of Lord Herbert, son of the Earl of Worcester, who married the heiress of Lord Russell. She was met at the water-side by the bride, and was carried to the house of rejoicing in a litter borne by six knights. On the same day she supped with Lord Cobham, who had prepared a mask of eight ladies for her amusement. "Mistress Fitton went to the Queen and wooed her to dance." Her Majesty asked what she was. "Affection," she said. "Affection," answered the Queen, who was thinking of Essex, 'Affection is false." But we have still to mention the glory of the Blackfriars,—that is, the theatre where many of Shakspeare's marvellous dramas were performed, and in which the poet himself acted. It has usually been supposed that the Blackfriars Theatre was built for Burbage, in the year 1576; but Mr. Halliwell Phillipps has discovered a very remarkable document, viz., the deed of feoffment from Sir William More, of Loseley, co. Surrey, to James Burbage, of Hallowell, in the county of Middlesex, gentleman, February 4th, 1596, conveying to the latter that portion of a large house in the Blackfriars which was shortly afterwards converted by him into a theatre. Sir William More was executor of the will of Sir Thomas Cawarden, and was thus in a position to make this sale. The deed specifies very fully what the property really was,—for instance, "Seaven greate upper romes as they are nowe devided, beinge all uppon one flower, and sometyme beinge one greate and entire rome, with the roufe over the same covered with lead," "Also all that greate payre of wyndinge stayres, with the stayre-case thereunto belongeing, which leadeth upp unto the same seaven greate upper romes out of the greate yarde there, which doth lye nexte unto the Pype-office." The building appears to have been situated between the mansion of Lord Cobham, then Lord Chamberlain, and that of Sir George Carey, afterwards Lord Hunsdon.

The information contained in this deed is corroborated by "A Petition to the Privy Council from the Inhabitants of the Blackfriars, Nov., 1596, against the theatre which was then about to be established by Burbage," in which it is directly stated "that there hath not at any tyme heretofore been used any comon playhouse within the same precinct; but that now all players being banished by the Lord Mayor from playing within the Cittie by reason of the great inconveniences and ill rule that followeth them, they now thincke to plant themselves in liberties." The petitioners give various reasons against the proposed opening of the theatre, such as the general inconvenience to all the inhabitants, "both by reason of the great resort and gathering togeather of all manner of vagrant and lewde persons that, under cullor of resorting to the playes will come thither and worke all manner of mischeefe, and also to the great pestring and filling up of the same precinct, yf it should please God to send any visitation of sicknesse as heretofore hath been, for that the same precinct is allready growne very populous, and besides that, the same playhouse is so neere the church that the noyse of the drummes and trumpetts will greatly disturbe and hinder both the ministers and parishioners in tyme of devine service and sermons."

We thus have complete evidence that there was no theatre in Blackfriars before 1596, and yet we know that plays were acted in the precinct long before that year. Stephen Gorson, in his "Playes confuted in five Actions," published about 1580, expressly mentions the comedies at the Blackfriars, and Lyly's "Sapho and Phao," which was acted before Elizabeth, in 1584, "by her Majesties Children and the Boyes of Paules," was also performed in the Blackfriars. It is probable that, as in other places, the stage was erected in some inn yard, or in the house of one of the noble inhabitants; but further information on the subject would be of considerable interest. According to "An order by the Corporation of the City of London, date January 21st, 1618-19, for the suppression of the Blackfriars Theatre," we learn that the Lords of the Privy Council had forbidden the use of the theatre; but under the plea that it was a private house, the proprietors were able to keep it open. In 1598, Ben Jonson's "Every Man in his Humour" was brought out there, and Shakspeare himself was one of the actors in that play. Shortly afterwards Burbage leased the theatre to one Evans, whose company consisted of the children of the Royal Chapel, and for some years the King's servants (the company to which Shakspeare belonged) acted only at the Globe. It seems so unnatural to us that men should have acted the female characters of the early drama, that it is not easy to realise the fact that actresses were not introduced on the English stage until a comparatively late period. The first attempt to naturalise them which was made at the Blackfriars Theatre was a signal failure. In 1629 a mixed French company of men and women played there, and "were hissed, hooted, and pippin-pelted from the stage." It is to them that Prynne refers in his "Histriomastix," 1633, when he writes of "some French women, or monsters rather [who] attempted to act a French play . . . . an impudent, shameful, unwomanish, and graceless attempt." In 1655 the theatre was pulled down, and it now only lives in the name of Playhouse-yard, the identical place where the multitude of private and hackney coaches, so much complained of as hindering the passage of the inhabitants to and from their homes, were turned in and the coachmen sometimes laid by the heels.

We have already noted some of the grand folks who lived in the precinct, and we will now mention some of the celebrities of another kind. Ben Jonson dated the dedication to his "Volpone" "from my house in the Black Friars this 11th day of February, 1607"; and Shakspeare bought a house here, but he is not supposed to have lived in it. Nat Field, the poet and player, and Dick Robinson, the player, were here near at hand to the place where they earned their living. Van Dyck, Cornelius Jansen, and Isaac Oliver, painters, and Faithorne, engraver, were living in the midst of their patrons, and Charles I. often came by water to see the first-named in his studio. It is necessary to mention that the Earl and Countess of Somerset were living here when Overbury was murdered, but it is more congenial to our taste to hurry from them in order to mention one old worthy who was connected with the place for many years, and whose name can still be read by the passer-by upon a monument in Church Entry. Dr. William Gouge, the popular minister of the parish of St. Ann for forty-six years, was a man of some mark in his day. As he was appointed to the living in 1607, he may have had dealings with Shakspeare, but as he was a bit of a Puritan it is not probable that he esteemed the dramatist very highly.

There is much more of the history of Blackfriars still to be told, but we can now only hurriedly notice a few of the most interesting incidents, beginning with the fearful accident which occurred in 1623 at the house of Count de Tillier, the French ambassador. A large and mixed congregation of Protestants and Roman Catholics had gathered together one Sunday evening to hear Father Drury (a converted Protestant) preach. As many as were able crowded into the room on the upper floor for that purpose, but those who could not get in were contented to remain on the floor below and listen to a preacher on the sacrament of Penance. The floors were not constructed to bear the immense weight that was placed upon them, and they both gave way. A large number of persons were in consequence precipitated to a great depth and killed, both preachers being among the dead. As might be expected, the judgment-mongers found in this accident a striking proof of the truth of their belief, and in a rare pamphlet, entitled "The Fatal Vespers," Samuel Clark, pastor of Benet Finck, gives "a true and full narrative of the signal judgement of God upon the Papists." The odd part of the matter is that Drury had used the same argument that misfortunes are judgments from God in his sermon. He inveighed bitterly against Luther, Calvin, and "Doctor Sutton, a reverend preacher, some time of St. Mary Overy's in London, who travelling beyond the seas was drowned." The preacher said that "the sea swallowed him because he was not worthy the earth should receive him. At which words the house sank." Among the broadsides belonging to the Society of Antiquaries is one entitled "The Dismall Day at the Black-Friers; or, a deplorable Elegie on the Death of almost an Hundred Persons who were lamentably slaine by the Fall of a House in the Blacke-Fryers, being all assembled there (after the manner of their devotion) to heare a Sermon on Sunday night, the 26th of October last past, an. 1623. By Nath Rhodes."

The name of Glasshouse-yard recals the memory of the manufactory which was set up

there by a Venetian in Elizabeth's reign, and against which all the glass sellers of London raised their voices as an infringement of their rights. In Decker's "A Knight's Conjuring," 1607, we read of the "Glass-house furnace in Blackfriars."

The situation of the *Wardrobe*, a house built originally by Sir John Beauchamp (whose tomb in old St. Paul's was mistaken for that of "Good Duke Humphrey"), and afterwards sold to Edward III., is marked by the quiet little old-world *Wardrobe Place*, with its stunted trees. It was, as its name implies, a receptacle for the clothes of the kings which were worn upon great occasions, and is called by Fuller "A library for antiquaries therein to read the mode and fashion of garments in all ages."

The old houses of the British and Foreign Society, in Earl-street, possessed an interest which the new one in Queen Victoria-street has not, for it stood upon the site of the premises in which the Committee of Translators of the Authorised Version of the Bible met to revise their work in the reign of James I.

Printing House-square, noted for its association with the *Times* newspaper, takes its name from the office of the King's Printer, which was situated here until the year 1770, when it was removed to its present position.

Apothecaries' Hall still remains in the situation so fully described by Garth in "The Dispensary":—

> "Nigh where Fleet Ditch descends in sable streams,
> To wash his sooty Naiads in the Thames,
> There stands a structure on a rising hill,
> Where tyros take their freedom out to kill."

Such are the chief features of Blackfriars, and it only remains to mention the old bridge and its approaches, the forming of which made the first clearance in the district. Mylne's bridge was opened in 1769, the first stone having been laid in 1760, and the subscribers had the satisfaction of finding, on the completion of the works, that their architect had executed his undertaking at 163*l.* less than his estimate. The tolls were bought by Government in 1785. It was at first called Pitt Bridge, in honour of the "great commoner," and an inscription to that effect was engraved upon a tablet, but the name was not long-lived. William-street, Earl-street, and Chatham-place, however, still remain to connect the memory of the elder Pitt with the place, and to point to the time when he was the most popular man in England.

The building of the bridge was the foundation of Mylne's successful career. He was only six-and-twenty years old when his design was chosen against those of such formidable competitors as Smeaton and Dr. Johnson's friend Gwyn. He lived to make friends of his rivals, and was buried in St. Paul's Cathedral, of which he was for many years surveyor, yet 100 years only have passed, and his work has perished. His bridge has been pulled down and a new one erected in its place, and his home (afterwards the York Hotel) has been swept away to make room for the Ludgate-hill Station of the London, Chatham, & Dover Railway.

THE BRITISH MUSEUM AND ITS COLLECTIONS OF SCULPTURE AND ARCHITECTURE.

Very many and important alterations and additions are now progressing at the British Museum, some of them not a little needful; and there are others equally needful and useful, or even more so, but which do not seem to have suggested themselves. It would seem an opportune time for naming one or two of them, and this we would venture to do in, we trust, a good and fair spirit of inquiry, and with an earnest wish to help matters. If our remarks do no good, they certainly need do no harm, and may help here and there to solve a difficulty, and to make the vast collections more useful and intelligible than they now, as things are, can be. The whole subject of our national collections is one of the very utmost possible importance, and may be viewed in more than one new light.

It is to be noticed, in the first place, that the British Museum, and its multiform contents, in this year of grace is in a very different position, as respects the public, from what it was in the year of its foundation, 1753, when the Act of Parliament was passed which enacted that the collections formed by Sir Hans Sloane, and the Cotton and Harley MSS. together, should be placed in "one general repository," and to be there preserved for public use to all posterity. All and grateful thanks, then, to these men for having founded for us the British Museum, though the idea of it was then so crude and limited. It was divided into only three parts,—printed books, manuscripts, and natural history. Montague House, a quaint Dutch-looking building, was the house selected to hold this nucleus of a collection. The present by George III. of some Egyptian antiquities, and the purchase of the Hamilton and Townley antiquities, added art and the "antique" to the general idea. Afterwards came prints and drawings, medals and coins, and, finally, the acquisition of the "Elgin" marbles, in 1816, fairly and completely filled Old Montague House with "curiosities" and books. Then came the new buildings, as we now find them, built by Sir R. Smirke, and after his death added to by his brother, Sydney Smirke. The great library collected by George III. was presented to the nation by George IV., the circular reading-room being the last building addition made. Botany came next, and then geology, including palæontology and mineralogy, and then zoology; a heterogeneous mass of materials truly, and hard enough to put into scientific shape or order. At this moment the whole Museum is divided into twelve "departments," thus, and it is important to note this, viz.:—Printed books, manuscripts, Oriental antiquities, British and Mediæval antiquities and ethnography, Greek and Roman antiquities, coins and medals, botany, prints and drawings, zoology, palæontology, mineralogy, and maps, charts, plans, and topographical drawings. Each of these departments is under the care of an "under librarian" as keeper, designations odd enough, as must be plain, but curiously indicating how old-fashioned usages and names last. The books are, in the Museum, looked on as the one and chief item of it, all the rest of the collection being subservient to these books. It would be curious to compare, and to balance, the Greek antiquities, the architecture, and sculpture, with and against the books in the library which have been written to describe and to elucidate them.

It must be observed, while looking at the list, that such a division has but little claim to any strictly scientific basis. It is a sort of accidental arrangement and division of what at best, if scientifically looked at, is a very imperfect gathering of this world's wonderful things. Architecture, as a distinct item, and *per se*, has, in the British Museum, no existence. Architectural fragments, as a matter of course, there are in abundance, but they are regarded as mere fragments, or "antiquities," and as altogether subservient and secondary to "sculpture." A curious practical illustration of this crude idea may be noticed in the Elgin Room, where, in the awkward and unsightly glass cases round the room, and in other places as well, may be seen a vast number of mere "fragments" of sculpture and architecture, all heaped together without idea, as it would seem, of the fact of their being quite distinct items. This, surely, is a very great and most momentous oversight; for the antique sculptured forms did not give rise to the architecture, but the architecture gave birth to the sculptured forms; and the greatest works in sculpture which the world has ever produced were so produced as decorative work, and to "ornament" and to give life to the architectural forms and masses,—to write on them a something to read, when printed books were not! How this unfortunate oversight has influenced the arrangement and placing of the objects in the Antiquity Department may be seen in numberless instances. You see cornices on the floor of the room, and must therefore needs look down on them instead of up at them; cornices again, as that long length of cornice from the Erechtheum, at the end of the Greek room, nearly on a level with the eye, and mounted, unhappily, on a bright red painted basement or rest. We must needs, too, look down on the "cap" of the Parthenon, and not up at it, whether we feel interested in the curve of it or no; all the striking effects of its light and shade being thus, too, utterly lost. We would earnestly urge on those who have control to raise this finely-cut capital so as to be above the eye level, though not so high as to be beyond detailed examination. Much depends on the mere position of objects in a museum of antiquities. We might thus go on and note in detail very many of these fine fragments of past art, from its most polished and world-famous time, but must forbear. We cannot, however, help observing that where there is so much that is unique, and to be seen nowhere else, almost any amount of thought and painstaking cannot be thrown away. The best of the work of the great sculptor Phidias is here in this Greek room,—and he certainly deserves a whole room to himself, looking to what the world owes him; and no mere question of proper and appropriate museum "fittings" should arise to mar his work. Might not the cornices and some other architectural details find an appropriate place and position on a stout stone shelf immediately above the Parthenon frieze, running, as it does, all round the gallery and at a convenient distance from the eye? All the "architecture" is totally lost as it is now placed in this Greek saloon!

We have many more notes in detail, and can hardly get away from the consideration of them; for there are other fragments here of combined architecture and sculpture from other temples. A vast heap of broken fragments from a column of the colossal Temple of Diana at Ephesus, recovered by Mr. J. T. Wood, architect, in 1871, is conspicuous. Also another fragment from a "sculptured column," as the guide-book has it, not a little remarkable, and which has been illustrated in our pages. It is circular on plan, but stands, awkwardly enough, on an oblong base or stand. Much of the architectural expression is surely lost in this way. A draped statue, by the way, close to it, from the Pandroseion, stands on the fragment of a column. And many other incongruities, but all quite easy to put right.

There is so much here in this antiquity department to note, and to wonder at, that we know not what to pass by. One thing there certainly is that has yet to be cogitated: viz., how best to light a museum of antiquities, so that there shall be light enough, but still not too much light,—a vast problem in itself, and not a little important too. You may have too much light, and a too evenly and widely distributed light, thus negativing all shadows. A notable example we may cite of this, but involving an evil happily in this instance easily remedied. If the simple alteration we suggest be effected, art will have got a something by this note of it. The Museum possesses, it is certain, very many things of mark; but no one object better or more striking, at least to a few, than the magnificently sculptured head and bust of the Egyptian, Sesostris,—Rameses II.,—from the Memnonium, Thebes. It is numbered 19. It was found by Salo and Burckhardt in 1817. It stands in the north-west corner of the Egyptian central saloon, and faces, unfortunately, the dull light of the west windows, where all the direct daylight is obscured by the circular library building in the court-yard. Nothing can be well worse. Now by simply turning the head round, so as to face the south, the light, such as it is, from the windows, would so strike it as to throw shadows, and thus mark the wonderfully soft and calm expression of the face, in which there is so much life and force. This head is a marvellous result of artistic skill and power over the apparently intractable granite out of which it is cut, and evidences the power of the old Egyptian artist-workmen in a striking way. It is worth placing where it can be seen.

We have thus hinted at a few matters out of a multitude needing attention, and have necessarily left the "book" department, hoping to return to it. Generally, it may be affirmed that so vast and heterogeneous a collection can hardly exist, in a scientific sense, under one roof, however spacious, the objects being so diverse. It would seem a subject well worth further consideration, as to how far such a collection could be most usefully and scientifically divided and separated. All know that, as it is, the natural history section of the museum is to be transferred to South Kensington, when the new building there is ready for its reception. Books and manuscripts, with maps in number infinite, are of themselves well nigh enough to fill any one building, and to exhaust the energies of any, however active, management and superintendence to arrange and classify, and to make the most of; while the antiquities, as they are termed, *i.e.*, fine art and architecture, sculpture and decorative painting, are, however looked at, sufficient to tax the capacity, and to try the acquired knowledge, of any one. These should not be separated, or be suffered to clash. Well might the whole of the ground-floor of the museum be devoted to them, and indeed it must be, if but those individualised styles of architecture and sculpture be in time as fully illustrated as those which are now there. We refer to such styles as the Hindoo and the Continental and Eastern Gothic in all phases, and the "Renaissance" generally. Now that so many changes and alterations are in

progress the time would seem to be favourable for a re-consideration of many matters here, both artistically and otherwise. But the changes, whatever they are, must come from the outer world, and must be strongly indicated.

NEW HALL FOR THE CARPENTERS' COMPANY.

The foundation-stone of a new hall for the Carpenters' Company was laid on the 1st inst. By the demolition of much property in London-wall, a new thoroughfare has been opened up by this company and the Drapers', between that thoroughfare and Throgmorton-street. This has been named Throgmorton-avenue. At the extreme London-wall, or the eastern, end of it, the new hall is to be erected. The contract for its construction has been taken by Mr. Brass, who will work to the designs of Mr. W. W. Pocock, architect. The entrance will (according to the *City Press*) be in Throgmorton-avenue. The entrance-doors admit to a loggia ornamented with coupled columns, from which the waiting-rooms and the offices of the clerk have ready access; thence to an inner hall, which leads to the court-room (38 ft. by 26 ft.), and other apartments, together with a staircase leading to the drawing-room (42 ft. by 30 ft.), and the livery-hall on the first floor. This latter will be a spacious saloon, being 76 ft. by 38 ft. wide, and 36 ft. high. The intention is to reproduce in this the ceiling of the old hall, a fine example of the style of Inigo Jones, if not an actual work of that artist. The lofty basement and several mezzanine floors will contain the usual accessories.

The style of the building is Palladian, and the material to be used is Portland stone. The order is Italian, and consists of entire columns being raised on a deeply-recessed and boldly-panelled basement, and the spaces between the columns will be occupied by arcades and pedimented openings, the whole being surmounted by a balustrade. Each front will be from 84 ft. to 87 ft. long, and, being at a corner, the building will be advantageously situated. In making the excavations, so far as they have gone, the workmen have found many traces of Roman occupation, the most notable being a well lined with chalk.

THE FISHMONGERS' COMPANY'S MODEL DWELLINGS AT WALWORTH.

A good object is being carried out in Paragon-row, Rodney-road (formerly known as "Lock's Fields"), Walworth, by the Fishmongers' Company. On one side of the street ten sets of blocks of dwellings on the "flat" system are being erected, realising to some extent, the idea of the cottage character, and replacing old and dilapidated houses of a small class. The dwellings have a street both in the front and rear, and have perfect ventilation through the houses. On entering the staircase common to all the dwellings in the block, eight sets of apartments are approached, comprising four stories, six sets of the blocks of dwellings containing in each set of apartments three rooms, the remaining blocks containing four rooms, some few sets of apartments in each block having necessarily two rooms, space being given up for passages and access to the rear. These apartments contain a main living-room and a ventilated recess fitted for a bed in same, a bedroom, and a scullery. On a small back gallery, and approached from the external air, are the offices, a dust-shoot being also provided here, conveying the dust to the ground level, where there is a receptacle capable of being frequently cleansed, and the contents can be carried away through a gate or door in the rear, and across the open yard or drying-ground without coming through the houses in any way. Each set of apartments is fitted with a cottage-range, a copper, a sink, coal cupboard, pantry cupboard, ventilated from without; also with dwarf upboards in the sitting-rooms. One large cistern furnishes each block of the dwellings, water being supplied to each part of the offices throughout, and gas is provided on the staircases. The apartments are approached by fire-proof staircases, open to the air by recessed balconies, guarded by railings, on each landing, the staircase being divided by a central wall to prevent children playing on same and meeting with accidents. Externally the houses are built in stock brickwork, partly gabled and relieved by string-courses and arches of red brickwork; the roofs are tiled, and have dormers breaking forward. At the end of the buildings next the main thoroughfare, two shops have been provided, and some slight variation of the general plan meets a public improvement in widening the street. The whole scheme will accommodate seventy-nine families, the intention of the company being understood to be that the dwellings be let so as to make a fair return on the outlay, without unduly raising the rents. The contract for these buildings, which are now approaching completion, was taken by Messrs. Merritt & Ashby at a little over 13,000*l.*, Mr. T. Chatfeild Clarke being the architect, and the works have been carried on up to the present time without accident of any kind.

The *City Press*, in concluding a notice of these buildings, says:—"To those City companies who possess land in poor localities in the outskirts of the City, there can scarcely be a wiser expenditure of money, under careful control and management, than by such means."

THE STRAITS OF BROMPTON.

MARLBOROUGH ROAD.

Of the three great western London roads,—Bayswater, Kensington, and Brompton,—it would be hard to decide which has the most traffic; but it is clear that of these three routes, that by Brompton to Fulham is most used by the omnibus, which also takes this line for Chelsea.

At Knightsbridge the Kensington line forks off, and about a quarter of a mile farther, at the Bell and Horns, the grand boulevard of the Cromwell-road opens out a vista extending three-quarters of a mile. The noble building, the Natural History Museum, will now be soon complete, and will add dignity to the ranges of spacious mansions previously erected and judiciously planned around these extensive grounds, which bid fair to supersede even Belgravia, and to invite still farther westward the steadily increasing hordes of wealth and fashion; between this and the old Fulham-road many new and open thoroughfares have been already completed, and at the point of junction from the end of the Albert-road, Mr. Freake, the great projector of improvements in this district, has laid open the plan of a grand line of communication with the Fulham-road, and even further in extension to Chelsea.

Viewing the rapid progress of embellishment throughout the metropolis, and the ardour and activity of our Board of Works, from the Thames Embankment to Mile-end, it is wearisome to think of the somnolence of our ancient vestries, who are utterly regardless of our "antiquas vias," and heedless of the routes which formerly (say fifty years back) only led to the Bishop's Palace, or to Putney Bridge.

In the long range of the Brompton and Fulham roads, extending half a mile from Ovington-square to Sydney-street, there are only three streets leading southward,—Marlborough-road, Keppel-street, and College-street. Of these Marlborough-road is the principal, being 70 ft. wide from house to house for the greater portion, and 60 ft. in its mean extent, leading direct to Chelsea Hospital and to the Duke of York's School; but at its junction with the Fulham-road two houses have been built on the direct line of causeway, projecting across the entrance 27 ft., and barring access from the main route. One is a draper's shop, and the other a butcher's, having together a frontage of 36 ft. to Marlborough-road. Besides this there are four small forecourts, with shops and stalls, occupying a narrow angular space between Walton-street and the Fulham-road. These represent a scalene triangle, from the corner of Walton-street 75 ft. to the butcher's frontage, where it takes the whole depth, being advanced but 4 ft. at the south end. The blocking of this, the most open and frequented thoroughfare, is daily becoming a most serious grievance, as traffic increases; but now that the spacious new route from Sloane-square is already formed and about to be thrown open from Pont-street to Walton-street, and as the latter issues out into the Fulham-road just at this point of central communication, surely it is of the greatest importance that the Chelsea and Kensington Vestries should at once look into the facts and consider the practicability of a vast improvement at a comparatively small outlay. The draper's shop belongs to Kensington, the rest is in Chelsea parish.

From Belgravia to the Hans Estate this will be the direct leading thoroughfare to the Exhibition and western districts; but unless the street, of only 110 ft. in length from Walton-street, be opened out, the magnificent boulevard now formed across the Pavilion Estate will be excluded from the rank it should hold in the world of fashion.

The opening herein suggested would enhance the value of this otherwise ornamental part of the road, whilst it would afford to the numerous tributary outlets of Chelsea appreciable advantages.

QUONDAM.

DWELLINGS IN COREA.

It may be within the cognizance of our readers that about six months ago, a treaty was signed between Japan and Corea at Kôk'wa, the Corean capital. Mr. Miyamoto, one of the chief secretaries to the Japanese commissioners, who conducted the negotiations, is evidently a gentleman of some observation, and on his return to Yeddo, having been interviewed by the editor of one of the native journals, he communicated to him some interesting information regarding the little-known country which he had just visited. It would appear that there is a law in Corea limiting the size of the houses of the common people, as they are all domiciled in dwellings about 10 ft. or 12 ft. square, and little better than dog-kennels. The walls consist of a mixture of stone and earth, and the roofs of rice-straw thatch. Plaster, such as is used in Japan, is unknown, and there is but a scanty display of wood, the principal building material being pine. Even of this there is a scarcity, and an attempt to procure a cedar log of 20 ft. in length was a failure. The floors of the houses are made of compact hardened earth, and over this oiled paper is placed, and on it people sit. The Coreans put paper to as many strange uses as do the Japanese themselves. Ceilings are rare; but when they do occur they are made of paper stretched between the uprights supporting the roof, and the shops are provided with paper doors on which are inscribed "sayings of a graceful nature" in the Chinese character. Under the house-floors, and extending throughout their entire length, are horizontal passages, at one end of which fires are lighted, and the smoke and heat passing through these tunnels the houses are thus warmed. This mode of heating is, however, both difficult and dangerous; for it is next to impossible to maintain an even temperature, and the soot hanging about the eaves, there is great risk of the thatch taking fire. The houses are not built in rows, but are scattered here and there, and are only 6 ft. or 7 ft. in height. Indeed, Mr. Miyamoto rather contemptuously observes:—"The houses very much resemble the stoves used in Japan for roasting the sweet potato." The Government offices have tiled roofs, and being built of brick are recognisable at a glance. They all have two gates, an outer and an inner, and, we are told, in some respects resemble the temples of Japan; but the tiles are of bad quality, and the woodwork shows no skill. The frames of the paper doors (*i.e.*, windows) are so clumsy and heavy that but very little light is admitted into the rooms. In respect of conveniences, all these offices are very deficient, and the public thoroughfares are filthy. The widest roads are from 15 ft. to 20 ft. in breadth, the narrower ones from 8 ft. to 9 ft. Respecting them our informant states that there is no provision at their sides for carrying off the rain, and they are apparently never repaired or improved. The streets are dirty, and are decorated with monuments raised to departed local officials. The city walls of the Kôk'wa "Fu" are about five miles in circumference. They are only from 2 ft. to 3 ft. in height, and are partly constructed of mud and stone, and partly of brick. There is a gate on each of the four sides which seems to have been carefully painted in days long past; but these gates have been allowed to fall out of repair. The houses within the walls are scattered irregularly, and are not built in rows. There are no regular burying-places. It is said that stone monuments are erected to men of distinction; but under ordinary circumstances a heap of earth is thrown up over the grave, and when this has disappeared through natural causes, which it does in thirty or forty years, the soil is again brought into cultivation.

The proposed Naval Cadets' College.—The Parliamentary Committee appointed to inspect sites for the proposed Naval Cadets' College are to look at Devonport, Dartmouth, Weymouth, Portsmouth, Anglesea, and the Isle of Wight.

THE ROYAL ARCHÆOLOGICAL INSTITUTE AT COLCHESTER.

As briefly announced in last week's *Builder*, the annual meeting of the Royal Archæological Institute commenced at Colchester on the 1st inst. At half-past twelve the Mayor and Corporation received Lord Talbot de Malahide (president) and the members of the Institute at the Town-hall, and bade them a hearty welcome. The town clerk (Mr. Sayers Turner) read an address of welcome, in which the several matters of archæological interest connected with the borough were set forth, and a wish was expressed that the visit might result in settling many moot points in connexion with ancient local history. Lord Talbot de Malahide, in reply, said he was delighted to hear that the inhabitants and the Corporation of Colchester valued their old castle, which was unrivalled, and deserved their attention; and he hoped that it would be preserved from further decay, and that it might escape the much-abused process of "restoration." Having made some remarks on the value of archæology as an aid to the elucidation of ancient history, he vacated the chair in favour of Lord Carlingford, the president of the meeting. Formal addresses of welcome were then read from Archdeacon Ady on behalf of the clergy; from Sir Thomas Sutton Western on behalf of the magistracy; from Mr. King, secretary, on behalf of the Essex Archæological Society; and from Mr. James Round, M.P., on behalf of the country gentlemen of Essex. These addresses were duly responded to by Colonel Pinney, by the Rev. C. W. Bingham, and by Mr. J. H. Parker. The Mayor of Colchester (Mr. Philip O. Papillon) next invited the members and visitors to a public luncheon in the Corn Exchange, and about 250 ladies and gentlemen accepted the invitation. An adjournment was then made to the Town-hall, where

Lord Carlingford proceeded to deliver his inaugural address, in the course of which he said: I should like to point out to you the value of the associations and the lessons read to us by the association, in the programme of this Institute, of architecture with history and with archæology; for, as Tennyson says on another subject,—

> "These are three sisters, friends to man,
> Which never can be sunder'd without tears."

And while, on the one hand, history gets on very badly, and has made many blunders without the help of archæology—that is to say, the science of monuments and books has got on very badly in the hands of men who have not had eyes to see, or who have not taken the trouble to examine the records left on the face of the land by our forefathers,—on the other hand (and this strikes me most forcibly) architecture has done a good deal of mischief when separated from history and archæology. I know, from what I have heard in the course of the day, I am getting on rather delicate ground; nevertheless, I must say what I have to say on this point, and it seems to me that one of the foremost duties of this Institute is to endeavour to propagate throughout the length and breadth of the land what I may call the historic sense—the historic sentiment—a reverent feeling for the works of our forefathers. That propagandism seems to be our especial duty, and I feel perfectly certain that the object, and, I hope, the effect of such meetings as this will be to add new interest to our homes, fresh interest to our walks and our journeys, possibly to enhance our affection for our country. But more than that, it ought to, and I hope it will, teach many of us a reverent care for the works that have been handed down to us from our ancestors—the desire to preserve them against all dangers, including that which I am bound to call the great peril of architectural restoration. We know the ravages that have been made by enlightened architects in what is called the restoration of ancient buildings, and, of course, especially our ancient ecclesiastical buildings. It is not only, as is ordinarily the case, a smattering of architecture that is dangerous, but even a knowledge of architecture, without an apprenticeship to what I call the historic sense, the historic sentiment; that knowledge and that fancy have led to many lamentable deeds, and the sweeping away of what were supposed to be incongruities in a building—probably a church,—and in the endeavour to reduce all to some fancied standard of architectural correctness. We may hope, I think, that things are already very much improved in this respect; we may hope that the days have passed in which such things were done, as, for example, many thousand such acts as one which is denounced by my friend Dr. Freeman in that same great book—and it has a connexion with this neighbourhood—when he tells you that the tomb of the hero of the battle of Assandune, the tomb of that hero in Ely Cathedral, was swept away, demolished, and his ashes scattered by what the historian calls "the savages of the eighteenth century." Such a deed as that, I believe, will never happen again, but I feel convinced that our only security for minor mistakes and ravages is that historic sense and feeling to which I have referred. It is not enough, it seems to me, to feel, with Wordsworth,

> "The memorial majesty of time,"

in the case of great buildings and noble monuments; one wants to have the same feelings carried into all matters, small and great. One wants a certain tenderness for "old, unhappy, far-off things," and even for old and ugly things. Without that feeling I believe we shall have no safety in the work of restoration. Of course, there will be doubtful cases, and ugliness sometimes reaches a point which becomes unbearable; but still, upon the whole, the only safety is to listen to the muse of history, and she will always say "Let it alone." In connexion with that there is a question which I cannot pass before I sit down without one word of notice. It is the question of State interference in the preservation of our national monuments. This is a matter of practical, and, I may say, Parliamentary, interest. It was only to-day that I heard from the highest possible authority, Mr. Parker, that the Government of Italy had utterly outstripped us in this matter. The Government of Italy has recognised the duty of the State to preserve these national monuments, and has fulfilled the duty in a trenchant manner, which is undoubtedly alien to our English ideas, and which I shall not attempt to recommend, at all events in a manner which I should not have the pluck to stand up and support in either the House of Commons or in the House of Lords. But a great English antiquary has been endeavouring to preserve these national monuments in an extremely cautious and prudent way—I mean Sir John Lubbock; and I confess I find it absolutely impossible to fill even for a moment the honourable position of temporary president of this Institute without saying a word of appeal on behalf of Sir John Lubbock's Bill. I do not know what the object and duty of such an institution or of such a meeting as this is if we do not do something in behalf of that measure. I am sorry to say, and I do not think it creditable to the House of Commons, that the measure has failed again; it has not been rejected, and therefore there is every hope for the future; but it has not succeeded. Of course, we know the difficulty with the noble British sense of the rights of property, but we know that that wholesome feeling can be, upon occasions which seem to the public sufficient, made to give way to the public interests, and whenever one-fiftieth part of that feeling, which overrides the right of property for the sake of a new railway, a road, or a drain, shall be applied to our national monuments, this measure of Sir John Lubbock will pass without any difficulty.

At nine p.m. the Historical Section was opened, when Dr. E. A. Freeman delivered an address on the Early History of Colchester and the country of the Trinobantes, drawing an analogy between that and the West Saxon district, and especially Cardiff and its surroundings, and tracing the important influence and bearing of both the East and West Saxon races in the building-up of the future kingdom. In point of antiquity a certain priority might be accorded to the East Saxons, inasmuch as Camulodunum was the earliest Roman settlement of importance. The claim of Maldon to stand as the city of Camulodunum could not be for a moment entertained; it had its own source of fame in later times in the resistance offered to the Danes; and the name of Maldon was so unmistakeably Saxon that there was no room for doubt in the matter; whereas the Roman Colonia, the British Colon, the Saxon Colonceaster, became eventually Colchester, which, he maintained, did not obtain its name from the river, but the river, he considered, might have taken its name from the town. For the early history of Camulodunum we had the best authority in the pages of Tacitus, who recorded the important part which that city played in the days of Boadicea. As to the birth of the *Bithynian* Princess Helena, he begged to be allowed utterly and entirely to reject the tradition of her birth in Camulodunum, as well as all the stories about King Coel and King Coel's kitchen, Constantine, &c. Neither would he admit the Roman origin of the castle: it was Norman, in his belief, built, it might be, and was, of Roman material. Neither did he think that the town walls were *Early* Roman: they were of later, though evidently Roman, construction, and were one of the best specimens, in some respects, which we had in England; for while the masonry was not so perfect as in York, its full extent round the town was more intact. Dr. Freeman concluded with a slight sketch of the history of the town after the departure of the Romans.

On Wednesday morning, at the early hour of 8·30, the first general excursion started by special train for Sudbury, Castle Hedingham, Little Maplestead, and Earl's Colne, reaching Sudbury at 9.30, the Mayor (Mr. George Smith) formally receiving the visitors. The history of the town dates from about 799, and its charter as a borough was granted in 1553. The visitors at once proceeded to inspect the few remains of a Dominican priory (temp. 1272), said to have been built for the Black Preaching Friars. The Church of All Saints was next visited, its chief points of antiquarian interest being noticed by Mr. J. H. Parker. It was described as being of the periods of Henry III. and Henry VII., and only noticeable on account of the number of shields upon the arches. The next church visited was St. Gregory's, mention of which is found in the year 790, after which it was given by the Countess of Clare (temp. King John) to the Prioress of Eton, and was subsequently purchased of the nuns by Simon of Sudbury when Bishop of London. Mr. Parker had previously remarked upon the want of colour in All Saints Church, but here he had to complain of the opposite, some young ladies of the parish having been allowed to decorate the very long chancel in all the colours of an Alhambra Court. He wished it to be known that it was always the practice to colour the walls of our sacred edifices, Scriptural subjects being used, and he was glad that the old custom was being revived in a most satisfactory manner. He cited a case where at Oxford a church in which Wesley formerly preached had been so restored, to the gratification alike of Churchmen and Wesleyans. St. Peter's Church, next visited, was a more complete edifice in design, but possessed few features of prominent interest. The roof was unique, but Mr. Freeman pointed out that the general character of the architecture was that common to East Anglia, which was very different to that of the West of England. On the way the party took a passing glance at "Gainsborough's House," and a fourteenth-century erection, which was formerly "Salters' Hall," and belonged to the corporation, but which is now the residence of Canon Molyneux. At the town-hall an entertainment was provided by the mayor and corporation, and they received the formal thanks of the members for the reception given.

The party, which had been considerably augmented, took vehicles at Sudbury for Hedingham Castle, the seat of Mr. Majendie, M.P. This old Norman keep, which Lord Talbot de Malahide and others described as the finest of the sort in England, was inspected with much interest. The hon. owner acted as cicerone, and gave an outline of the history of the castle. Mr. Parker again added some general remarks. He desired especially that it should be known that late researches had made it palpable that these stone Norman keeps had no existence previously to the eleventh century. At the invitation of Mr. Majendie, the party had luncheon in the banqueting-hall. The next move made was for the Round Church at Maplestead, near Halstead. The edifice was restored some years ago upon the lines of the old building, which it is said was erected by the Knights Templars, who had a preceptory here. This church, one of four of the type, is of later date than the other three, and is of the form of the church at Jerusalem. Continuing the journey, the party visited the church of Earl's Colne and the Priory at the same place, where a portion of the company accepted the hospitality of Mr. Carwardine, in whose possession are the tombs of the De Veres; the remainder visited the residence of General Marsden. A short ride (marred by the upsetting of one of the vehicles) to Chappel Station, whence train was taken to Colchester, brought an agreeable tour to an end.

The Architectural Section was opened in the lecture-room of the Literary Institution, at ten o'clock on Thursday, and in the absence of the president of the section (Mr. Beresford Hope, M.P.), the chair was occupied by Mr. J. H.

Parker. There was a fair attendance. The first paper was read by Mr. Charles Forster Hayward, the subject being, "The Nunnery of Layer Marney," better known, perhaps, as Layer Marney Tower. Running rapidly over the history of this building, he traced the genealogy of the Marney family, who, he said, lived at Layer Marney for centuries preceding the year 1500 or 1525, when the present building was commenced, but never finished, for the family became extinct at the period when the portion which now stands was completed, and thus what was evidently intended to be an enormous quadrangular pile is merely a tower and wing. The building is principally of brick, but the windows and some portions of the tower have a thin layer of terra-cotta over them; and the parapet of the tower was described as exhibiting some exceptionally beautiful work in a most beautiful building. Mr. Hayward gave some interesting particulars of the church and the tombs of the Marneys which it contains, including one of terra-cotta, which includes some of the details of the parapet, and of many other works of terra-cotta of the period in different parts of the kingdom.

Mr. G. A. Lowndes mentioned St. John's College, Cambridge, which was built at about the same period, as being similar in style. In this Mr. Hayward agreed.

The Chairman asked if Mr. Chancellor knew of any other examples of terra-cotta work, like the present instance, in ecclesiastical buildings in Essex; but Mr. Chancellor replied in the negative, quoting, however, several examples of moulded brickwork which had evidently had a coating of terra-cotta.

Lord Talbot asked whether in the cases of brick towers the interior as well as the exterior was of that material. Mr. Chancellor replied that as a rule such was the case. He mentioned one instance,—Chignell Smealey,—of a church which was not only entirely of brick, but which had a brick font. The place was called by the country people Brick Smealey,—a very significant name.

After some further discussion,

Mr. F. Chancellor, of Chelmsford, read a paper on "the Chapel of Saint Peter-on-the-Wall, at Bradwell," with the object of determining whether this curious church was built in the Roman, the Saxon, or the Norman period, or even later than that. As to the Romans, Mr. Chancellor thought it was impossible that they should have built it, because the edifice is out of character with the military fortifications, a feature which would have been found in the castellation; and, besides this, though Roman materials enter into its construction, they are not used in the manner that the Romans would have used them. As regards the Saxons, the first-named objection to its Roman origin applies equally to them, and there are also no long or short quoins which are to be found in Saxon work. As to the Normans, the buttresses which are to be found in the building forbid the belief that they constructed it in their earlier times, and Mr. Chancellor leaned to the opinion that it was built from the remains of the Roman wall upon which it stands, at the transition period between Norman and Early English, probably in the twelfth century. Mr. Chancellor then described the building and its characteristics. In the course of some discussion, the chairman said his first impression of the building was that it had been built at an earlier period than the twelfth century, but Mr. Chancellor had established his point by the evidence brought forward. He had been examining Holy Trinity Church that morning, and he had no doubt that that also belonged to the close of the eleventh century. The church of the earliest date in the county was Assington. The walls of this church were 8 ft. thick, and it was a good type of the Anglo-Saxon period, having been built by Canute in 1010 or 1020. The chairman also mentioned the fact that after the year 1000 there was an immense revival of religious life; so much so, indeed, that an historian of the period spoke of all Europe as "putting on a new white robe," so numerous were the churches erected, in anticipation of the end of the world, or at least the millennium.

The Historical Section held a second meeting in the Town-hall at ten p.m. on Thursday, Dr. Freeman presiding, when the Rev. Barton Lodge read a concise memoir of Eudo Dapifer. Mr. Lodge commenced by telling the members that Eudo was a great benefactor to the town, that he was a founder of the Abbey of St. John, Magdalen College of King James, and was spoken of as the builder of the castle of Colchester, which is nowhere mentioned in Domesday Book. He also explained that the castle was repaired after it had been ravaged by the Danes. Eudo was called Dapifer, which has many *aliases*, such as major domo, steward, seneschal, or marshal; dapifer meaning the man who brings in the viands. It appeared that the first stone of St. John's Abbey was laid by Eudo Dapifer, the second by Rohesia his wife, and the third by Earl Gilbert, her brother. Mr. Hurnard inquired whether there was any evidence that Eudo built the castle, as the late Mr. Jenkins, of Stanway, had pronounced strongly in favour of the castle belonging to the Roman period. Mr. Parker said it was a Norman castle, and to say it was Roman would be absolute nonsense. The archway was a very good specimen of the commencement of the twelfth century, with all the ornamentation of the end of that period. The chairman observed that the legend concerning Eudo being appointed Dapifer was of no general value, but purely local; it was simply one that nobody now believed, and he characterised the incident of W. Fitz Osborn as absurd. He was sorry to hear the old scandal of Goodwyn brought up; of the rightful claims of Robert there were none, and that the castle was a temple of Claudius was an absurd notion.

Thursday afternoon was devoted to the perambulation of Colchester. The party started from the town-hall about half-past two. The first object of examination was St. Martin's Church, which possesses a fine carved chancel roof, which has just been uncovered at the expense of Sir Gilbert Scott. Sir Gilbert favoured the company with a description of this roof, which, he said, was now brought to light for the first time in two centuries, and was five centuries and a half old. He pointed out its various striking features, and mentioned that, although it had borne the brunt of 550 years or more, the oak carving was as sound as ever. The roof, however, was not, he said, quite complete, as some very excellent tracery work had been removed, probably by the workmen when the panelling was taken away. [Sir Gilbert subsequently stated that he had received information which hardly bore out this statement, and he accordingly withdrew it.] The church was one of those rare instances in which the nave, chancel, and the sanctuary were distinctly shown, and the sanctuary arch exhibited some excellent carving. In reply to the rector (the Rev. W. Laing), Sir Gilbert said the pulpit appeared to be composed of eighteenth-century framework, but the panels were seventeenth-century work. Mr. Parker subsequently drew attention to the squint, or hagioscope. St. Runwald's Church was next visited, and from thence the party proceeded to Holy Trinity Church, where Mr. Freeman said it was absurd to call the tower Saxon, an act which implied that the East Saxons did not still exist in a district which still continued, and he hoped long would continue, to be East Saxon. Mr. Freeman then called attention to the principal features of this part of the sacred edifice, and remarked that there were evidences in it which clearly pointed to the fact that it was built on to a more ancient edifice, though the remaining portions of the church were purely modern. St. Peter's and St. Mary-at-the-Walls were next inspected, and a thorough examination was then made of the remains of the old Roman wall in Balkerne-lane, on some portions of which there are good specimens of the original facing; and of the admirably preserved Decuman Gate at the top of Balkerne-hill, the only existing Roman gateway and guard-house. Here some of the party diverged under the guardianship of the Mayor to the piece of ground between the Colchester Union and Blatch-square, where, at the instigation of Mr. Laver (who, on the commonly received belief that the old Roman way to Londinium from the Balkan or Decuman Gate crossed to the London-road at the point where the Hospital now stands, conjectured that Roman remains might be found), a party of sappers and miners had excavated and discovered the pavement of an old Roman villa. The soldiers had been retained for the arrival of the party, who found a large amount of tesselated pavement laid bare on the very spot selected for exploration, and the pick-axes of the soldiers revealed further proofs of Roman work. Proceeding to Beverley-road, Mr. George Joslin's Museum of Roman Remains was examined, Mr. Joslin stating that they were all discovered within a radius of a quarter of a mile of his house. The party then proceeded to Lexden Park, where refreshments were provided by the hospitable owner of the mansion, Mr. G. H. Errington, High Steward of the borough. Under the shade of the trees, the Rev. Prebendary Scarth read a paper which, he said, he trusted would once and for all establish beyond controversy the long-disputed site of Camulodunum. After enumerating the various theories afloat concerning the Ancient City, which Camden had placed at Maldon, and others had fixed in Yorkshire, the Western, the Midland, Counties, and even in Scotland, Mr. Scarth cited passages from Pliny and Tacitus, which, taken in connexion with the many coins of Cunobeline found at Colchester, and the existence of such a vast and splendid collection of Roman remains as the town affords, together with the earthworks, over which Mr. Errington would shortly conduct them, went to prove, he considered, incontrovertibly that Colchester was the *Roman* Camulodunum, and Lexden and Lexden Heath the *British* Camulodunum, Camulodunum embracing a circuit of some three miles or more. Remarking on the absence of any certain history with regard to the exact spot where Boadicea fell, he expressed his strong conviction that it lay somewhere between Lexden and London. After several other interesting observations, the company were led by Mr. Errington round the beautiful park, over the earthworks, held to be the work of the early Britons, commanding an exquisite view of the valley and house below, towards a tumulus, discovered some years ago, and now planted with shrubs. The afternoon perambulations then terminated.

In the evening, a *conversazione* of the members of the Institute, and of the Essex Archæological Society, was held in the castle, when a distinguished company was brought together within the old walls. The museums were the actual centres of the gathering, but the whole castle, including the vaults, the cells, &c., were brilliantly lighted up with duplex and other lamps. During the evening, the Rev. C. L. Acland, head-master of the Royal Grammar School, gave an interesting notice of that foundation, which dated, he said, from 1637. At the conclusion of the paper, Mr. Stephen Tucker (*Rouge Croix*) expressed an opinion that the records of the Grammar School should be published, and quoted, as an instance of the value they were, the fact that he had, within the past few days, been enabled to solve a mystery he had been trying to unravel for months, through the agency of the *Liber Scholæ* of the Colchester Royal Grammar School.

On Friday, an excursion was made by road to Copford, Layer Marney, Beeleigh Abbey, and Maldon, the party starting from the Town-hall at nine a.m. Copford Church was the first stoppage, and here Mr. C. Forster Hayward described the building, and the mural paintings with which the chancel is adorned. The church, he said, was of a beautiful example of Norman architecture, and was originally vaulted, but, whether from the insecurity of the vault he did not know, at all events, pointed arches were substituted. The screen was a specimen of Late Perpendicular style, and had no relation to the original building. The roof, no doubt, was a very beautiful piece of work, and if the plaster could be removed and the woodwork shown, it would probably turn out to be similar in character to that just discovered in St. Martin's, Colchester. Quantities of Roman brick were to be found in the walls, and had, no doubt, been used because ready to hand; and the church itself, with most of the churches in this district, had probably been built by the masons who wrought for Hedingham Castle. Turning to the paintings, Mr. Hayward said some portions of them, especially the architectural ornament, might belong to the eleventh century; but the chief part was probably restored in the fourteenth century. The scheme of the painting is as follows:—In the arch of the chancel over the window is a majesty. Christ is represented seated on a throne, with a rainbow behind it, and clouds beneath his feet. His right hand is in the attitude of benediction, and his left arm rests on a book. The wounds are visible in his hands and feet. Below the majesty are angels, and in the background are the towers of the New Jerusalem. On each side of the window stand four apostles under canopies. Along the main soffit of the chancel are represented the signs of the zodiac, with the sun and moon at the ends. Only a few of the original figures were found, and the rest are conjectural restorations. Among the former was Virgo with a nimbus, said to represent the mother of our Lord; but this was not to be relied upon, as Satan himself was often represented as having a nimbus, and it therefore could not be taken altogether as a

badge of holiness. These paintings were discovered by the plaster, which had hidden them, peeling off the wall. Exact tracings were taken at the time, and served as a basis for the restoration; and Mr. Hayward offered to exhibit these on application. The present generation ought, Mr. Hayward said, to be very thankful to those who were apparently barbarous enough to whitewash the paintings, for they were unable themselves to appreciate their beauty, and the whitewash, so far from destroying them, simply preserved them for a more appreciative generation. There was a tradition that the whole of the church was similarly painted, and, perhaps, in the future, this might also be ascertained, and if they existed the paintings might be restored. Mr. Daniel Bell, the artist who had restored the paintings, deserved the highest commendations, for they were most faithfully done; and a set of careful plates had been prepared by Mr. Parish, of Colchester, which, if sufficient subscribers could be found, were to be published, but Mr. Hayward warned those who were preparing them not to let them go forth to the world as authorities of what was done in Mediæval times. They would never be that, but must be looked upon rather as a restoration, carefully worked out by a conscientious modern artist.

Mr. J. H. Parker, C.B., remarked that the restorations had been done in a most interesting and satisfactory manner, and showed no signs of those innovations misnamed restorations. It must be borne in mind that the whole of our churches were decorated, or intended to be decorated, in order to teach ignorant people by the eye, instead of, or as a supplement to, the ear; and it was thus that in old times people who could not read were taught. There had been a sort of Puritanical objection raised to paintings, but where only Scriptural subjects were used, and legends were excluded, no Christian ought to have any objection to them. Alluding to the architecture of the church, Mr. Parker said it was a remarkable Norman church, and had originally a chantry-chapel attached. There had also been a rood-loft. The design was evidently of the twelfth century, but the church generally, including the paintings, had been touched up in the fourteenth century.

Sir Gilbert Scott next said a few words, remarking that the paintings were a most surprising and valuable discovery. Excepting the chapel in Canterbury Cathedral, he had never seen anything like it. He thought the original design of the church dated from the early part of the twelfth century, and the porch was the most beautiful specimen in the country.

Layer Marney was next visited, and, under the guidance of Mr. Hayward, the party were conducted over the tower, the wing, the dormitories, and the church. In the tower, the splendid oak newel, which runs up the entire staircases, the terra-cotta work on the windows and parapet, and the moulded brick chimneys, were the principal objects of interest; but the loftiness of the chambers, and the massive oak beams which supported the floors, were much admired.

The Mayor of Colchester asked whether the terra-cotta work was of Italian, Flemish, or English origin, as an impression prevailed that it was English?

Mr. Hayward said he should be very glad if he could attribute the work to English artists, but there was very little doubt that it was either Flemish or Italian. With regard to the entire building, Mr. Hayward said there was no doubt that the entire front and the chimney either was, or was intended to be, covered with a coating of plaster. The church, Mr. Hayward said, was built by the same hands as the tower—which he believed to be the gateway of an immense quadrangular range of buildings,—and of the other buildings, but the soil was bad, and hence the number of cracks in the walls, which opened and contracted as the weather was wet or dry. The church contains the tombs of some of the Marneys, notably one in terra cotta, bearing many features (especially the parapet) of the tower and building generally. This tomb is that of Sir Harry, afterwards Lord Harry Marney, the founder of the buildings, who died in 1525, and his death being closely followed by that of his son, the family became extinct, and the buildings were never completed. There is also an alabaster tomb of one of the Marneys.

In reply to a question, Mr. Bloxam said the terra-cotta tomb bore striking evidences that it was not of English workmanship, but of Flemish or Italian; and in this he was supported by Mr. Hayward; and Mr. Tucker (*Rouge Croix*), who said that the badge of the Garter which the effigy bore was not portrayed as an English artist would have portrayed it.

The hospitality of Mr. Sampson Wood, who occupies the wing of the building, having been partaken of, the party proceeded on to Maldon, where, after taking lunch at the Blue Boar, the party visited the town-hall, the churches, Dr. Plume's library, and Beeleigh Abbey, where are to be seen some groined and carved roofs, &c., and started on their return journey about five o'clock. Of the subsequent proceedings we may give some record next week.

THE PARIS EXHIBITION OF 1878.

As some of our readers doubtless already know, the Senate have, within the last few days, voted the amount of 6,000,000 francs towards the construction of the Exhibition, and within this week it has been officially announced that the works were about immediately to commence. On visiting the other day the Champs de Mars, that well-known rectangular space, in expectation of seeing an oasis of workmen in that Sahara-like area, it presented precisely its ordinary appearance, with its customary lines of cavalry going to and from the École Polytechnique, but, not a single incident to indicate that any change was about to disturb the sandy level. The Trocadero also, which will take so conspicuous a part in connexion with the Exhibition, is still as dull and as green as usual, in possession of the patient man with the enormous telescope, whose only hope is in the bright and beautiful Saints' Days.

Whether the enormous column which is proposed to be erected on this height will be finished is a question. The Acrobile, as they intend to call it, will be a permanent monument in iron, 260 mètres (fancy, more than 800 ft.!) high, which will serve at the same time as observatory, as lighthouse, and as a building suitable for experiments upon the velocity of light and the fall of bodies. Its altitude will exceed, by more than 300 ft. the highest monument of the world, which is, up to the present moment, the Pyramid of Cheops, and by nearly 380 ft. the steeple of the Cathedral of Strasburg. But the building in the Champs de Mars will be a reality,—a beautiful reality,—although we can scarcely expect in the Exhibition of 1878 anything more perfect than the Histoire de Travail of that of 1867.

The general disposition of the Exhibition that is to be adopted is that proposed by Messrs. Krantz and du Sommerard. In the centre of the palace a vast building will be consecrated to the exhibition of the fine arts; here will be found reproductions of the great works of antiquity, which will serve to illustrate how much of the old material goes to make up the freshest novelty of life. On each side, two vast galleries will be constructed to receive the products and industrial machines of all nations. Perpendicularly to these, there will be large vestibules richly decorated, which will serve as show-rooms for objects of magnificence, and in which will be found also all the necessary indications of the contents and map of the palace. The classification of the objects exposed will be made according to their nature and nationality; on one side France, on the other foreign countries. The *allées* of the garden, which will separate the palace of the fine arts from the galleries of the Exhibition, will be covered with a vellarium of incombustible material. As to the Trocadero, *restaurants* and *cafés* will be established there, near the exhibition of products from distant countries. The vast rotunda (capable of holding 10,000 persons) which will be constructed here should have a very fine effect. A bridge will be built (the project is due to M. Eiffel), which will join the Champs de Mars to the Trocadero; it will be placed below the Pont d'Jéna, which itself will be comprised in the Exhibition.

As we have said, the final plan of the Exhibition has been agreed upon. The type adopted is M. Baudot's, modified in its details by those of the eleven other plans which were rewarded, and principally by those of Messrs. Eiffel, Coquart, and Davioud. The final execution is confided to Messrs. Krantz and Viollet-le-Duc, who will take from the project of M. Coquart the garden, from that of M. Eiffel the bridge referred to above, and from that of M. Davioud the atrium. The total expenditure is calculated at 35,000,000 francs, of which 18,000,000 will be devoted to the buildings on the Champs de Mars, 7,000,000 for those of the Trocadero, 2,000,000 for the widening of the Pont d'Jéna, and 1,500,000 for the necessary machinery for construction and other purposes.

The area covered by the Exhibition will be no less than 720,000 mètres, thus divided:—Surface covered, 270,000 mètres; annexes and gardens, 450,000 mètres. The Great Exhibition of 1851 occupied a superficies of 90,000 mètres, of which 75,000 were covered and 15,000 devoted to gardens. That of Paris of 1855:—Surface covered, 133,150 mètres; gardens, 25,000 mètres; total, 158,150. That of London, in 1862:—Surface covered, 110,000 mètres; gardens, 50,000; total, 160,000. That of Paris, 1867:—Surface covered, 149,000 mètres; gardens, 250,000; Billancourt, 50,000; total, 449,000 mètres. That of Vienna, 1874:—Surface covered, 120 000 mètres; gardens, 300,000; total, 420,000 mètres. That of Philadelphia, 1876:—Surface covered, 198,200 mètres; gardens, 400,000; total, 598,200 mètres. The surface covered in 1878 will be the quadruple of that of the Crystal Palace, which seemed gigantic to the visitors to the Great Exhibition of 1851. This is the house that Paris is building, and which already here begins to take a place in our daily interests.

Those who remember the inconvenience of getting away from the Exhibition of 1867, will be delighted to hear that another capital point has been resolved upon, that of the stabling of the carriages. The city engineers have marked out the ground in the 7th and 16th arrondissements, where all the arrangements will be fully considered. We are assured, indeed, this time that means of locomotion will not be wanting, a supplementary service of river steamers and omnibuses will be organised, by the request of the city, by the respective companies, without counting two new lines of tramway and a metropolitan railway, on the London model, which it is affirmed will be opened, in so far as the part that concerns the Exhibition, in time to be of use for the visitors who will throng Paris in greater number than ever. The quays of the Seine will be lowered, and lifts, placed at the Pont d'Jéna, will raise the passengers brought by the tramways and steamers.

By the time all this is done, and the Exhibition ready to be opened, Paris will have undergone great changes, many of which will improve greatly the already beautiful city, and materially assist the comfort and enjoyment of those who visit it; but the great point that will strike those visitors who have not seen Paris for some time will be the completion, probably by the time the Exhibition opens, of the great Avenue from the New Opera House to the Place du Théâtre Français, and many a narrow and dear old street will have passed away in reality, and remain but in the mémory of the oldsters.

Paris.

NOTES ON ST. ALBAN'S ABBEY.*

The ancient city of Verulam once stood just to the south-west of the present town in which we are assembled, and it was from within this city that Alban, Britain's proto-martyr, was led forth to be executed, as Bede mentions, on a "little hill covered with wood," about A.D. 303. Upon the site of this little hill now stands the town of St. Alban's, and the precise spot of the martyrdom is said to be in the north transept of the Abbey Church. From Dugdale it seems that the early Christians built a church upon the spot of the martyrdom; but there is nothing of importance recorded until Offa II., king of the Mercians, who, repentant of his many sins, and as an atonement for a murder, was guided by a Christian mind to found a monastery in honour of St. Alban, A.D. 795. The monastery was placed under the rule of St. Benedict, and contained 100 monks, who vowed to live exclusively for the service of God, also to give shelter to travellers and all who should seek relief. Offa himself is recorded to have placed round St. Alban's skull a circle of gold, with an inscription signifying his name and title; he also caused the chapel to be enriched with gold, silver, and other ornaments, until a structure of greater magnificence could be erected. This was in the year 791. It seems most probable that Offa really built his monastery contiguous to this early church, for we find within a few years that Ealdred, the eighth abbot, commenced to collect materials for the rebuilding of the church. A famine prevailing throughout the country, Leo-

* By Mr. James Neale, F.S.A. Read at St. Alban's on the 19th ult., before the Architectural Societies of the Archdeaconries of Northampton and Oakham.

fric, tenth abbot, sold these materials, also the plate belonging to the church, in order to buy food for the poor. The rebuilding was delayed until William the Conqueror, in 1077, appointed Paul of Caen to the abbacy. Paul was a relative of Lanfranc, archbishop of Canterbury. Lanfranc was previously abbot of St. Stephen's, of Caen, and rebuilt Canterbury almost upon the model of St. Stephen's; but, according to Sir Gilbert Scott, Paul, who was simply a monk at St. Stephen's, but more ambitious, built St. Alban's on a scale vastly exceeding the new metropolitan cathedral,—not unlike that church in general plan, but exceeding it in size in every direction; for whilst at Canterbury the nave was but nine bays in length, he made St. Alban's thirteen. The choir at Canterbury had but two bays besides the apse, St. Alban's had five, and while either transept at Canterbury had two bays and a single apsidal chapel, those at St. Alban's had each three bays and two chapels; the entire length of Canterbury was about 290 ft., and St. Alban's 460 ft. It is obvious the materials had much influence in the design and plainness of the church, for Paul collected and used the old tiles from the ruined Verulam and the existing eastern bays of nave, tower, and transepts are the remains of Paul's church. The church was consecrated in 1115, when King Henry I., his Queen, and nobles were present. Having just briefly glanced at the early history, we will turn to our more immediate subject, and commence with the plan of the church as at its consecration in 1115, and gradually trace out the various alterations until we leave the building as we see it at the present time. I presume in 1115 it consisted of nave, transepts, choir, and sanctuary, with apsidal termination; two western towers, also one huge tower at crossing of transepts. The apse terminated where the present ante-chapel now is, and beyond this we have no proof that any other chapels existed. The whole of the church was built with tiles, averaging 16 in. by 12 in. by 1½ in., bedded in mortar, having the joints almost as thick as the tiles themselves. The mortar, I think, was composed of rough burned ballast and lime; and I will ask you to notice tomorrow the marvellous hardness of this mortar, even after the lapse of 800 years. We cannot say as to whether we have in this church any remains of Offa's building, but there are some columns in the transepts which, it is evident, are of an earlier date than the Norman Church, and, as I will point out at the abbey, they have served at one time a different purpose. About the year 1151 Robert de Gorham repaired and beautified the Early Shrine. He also rebuilt the chapter-house and part of the cloister. The chapter-house is entirely destroyed; but, fortunately, we have a portion of the cloister on the south side of the south transept, and it is just this small remnant that connects the link between the Norman work of Abbot Paul and the alterations of De Cella. The transition from Norman to Early English. The cloister, which is now commonly called "The Slype," separated the church from the chapter-house, and led from the main cloister to the monks' burying-ground. Matthew Paris gives a lengthy history of the supposed finding of the body of St. Amphibalus, whose relics were transferred to St. Alban's in 1186. With a lapse of over 100 years from the accession of Paul to that of John de Cella architecture had made a rapid stride, and in the new style De Cella conceived the idea of re-building his church. He pulled down the west front of the Norman building; however De Cella, although a man devoted so truly to his art, was not enabled, owing to bad management and want of funds, to complete more than a small portion of his design. It was his intention to lower the floor-line of the porches and commence the ascent eastwards by a range of steps to the nave. This was evidently done to give more prominence and dignity to the high altar. The original floor-line is now exposed in the north and south porches. We see, again, he commenced at the northern side: this would be owing to the monastic buildings being on the south, and it is my opinion that De Cella did nearly if not entirely complete the north porch. The abbot left the work in despair, and shortly afterwards died. Trumpington, his successor (1214–35), continued and finished the west front, and it is to-morrow we shall trace at the building how this, the business man, cut down the soul-conceived (or as he may have thought extravagant) work of De Cella. Thus in finishing the south porch he omitted the "dog tooth" and other enrichments we find in the north porch; a pier prepared with bases for eight clustered marble shafts he reduced at the caps to four; he also continued the work upon the floor level. Trumpington made extensive alterations besides the west front, including four bays on the north and five on the south of the nave, also many other details which I shall be better able to explain at the abbey. Even in Trumpington's work we can follow much how that his ideas or first intentions were gradually abandoned and reduced in richness in execution. Commencing as he naturally would on the north side, even though in the first instance he impoverished the work of De Cella, yet Trumpington intended to vault the nave. We still see the marble groining shafts to the four bays on the north side, the beautifully carved capitals designed to carry three other shafts clustered round the moulded nosing of the alternate triforium piers; also the clearstory itself shows evidence of this intention, but before the work had proceeded beyond a few bays he was obliged to reduce the number of shafts, and eventually abandoned the idea of vaulting the roof, and was compelled to leave the flat Norman ceiling. The two clearstory arches at the east end on the north side have the dog-tooth ornament. The mouldings to the two eastern bays on the south side vary from the rest, and I think there is little doubt these two bays were erected some few years later than those on the north, and together with the two next bays; after the idea of groining had been abandoned, we cannot suppose that Trumpington rebuilt the eastern part of the church, though it is evident he made many alterations here, and very probably did panel the Norman work with arches and intermediate arches, and we shall see a fragment of this design in the south aisle of the sanctuary. I said that we cannot suppose Trumpington entirely rebuilt this portion, for within a few years, during the rule of John de Hertford (1257), it was found necessary, owing to a gaping crack, to pull down the eastern part. We are indebted for the previous history to the writings of Matthew Paris, but he died about 1259, and the other chroniclers, though industrious enough in reporting all that concerned its worldly goods and disputes, were singularly remiss in recording what was done as relates to the structure of their church,—so although the whole of the eastern chapels were erected we have hardly any record of such work being in progress. Most likely the sanctuary was commenced by John de Hertford, but is more particularly the work of Roger de Norton (1260–91). It will be noticed that the sanctuary at St. Alban's is not open to the aisles, as is generally the case, but is really panelled in arcading. In fact, it seems in making these alterations the architect did not take down the Norman walls for fear of the great tower, but left the walls standing, and ingeniously arcaded them to agree with the other work of his date, and thus the walls really form a buttress to the tower. It was originally intended to vault the sanctuary in stone, but wood being substituted, the flying buttresses were not required and the preparations left, as at present seen, on the north and south sides. I am inclined to think the eastern chapels were commenced at the same time as the sanctuary, and continued by John de Berkhamsted (1291 to 1302), who completed the nave of the ante-chapel as high as the springing of the groining, and the whole of the lady-chapel to the level of the strings just under the window-sills. This seems to be clear, for similar arcading to the ante-chapel also continues through the lady-chapel. It is somewhat peculiar that on the south side the arcading has rich cinquefoiled heads, while that on the north is trefoiled; and each design terminates on either side of the altar of the Virgin. The work now seems to have been in abeyance for some years, but was resumed upon the accession of Hugh de Eversden (1308–26), though in the altered style. Hugh did not finish the groining of his predecessor, but cut away his springers, and substituted a flat, panelled ceiling. He also omitted the central piers, and thus entirely altered the intentions of Norton and Berkhamsted. But he seems to have devoted his genius to his own individual work in the lady-chapel. Sir Gilbert Scott says this group of chapels, now completed, offers as exquisite examples as it is possible to find of the two great phases of English Middle-Pointed architecture. I would especially draw your attention to that beautiful window at the east end of the south aisle of the ante-chapel. During the time of Eversden (1323) some pillars of the Norman work on the south of the nave fell. Eversden commenced the rebuilding, and it is to him we are indebted for the five bays of even more exquisite design than his lady-chapel. It is worth notice, and I think clearly proves these to have been the work of the same abbot; for, in the small niches to the jambs of the lady-chapel windows, I find exactly the same mouldings to the bases and caps as in the work just mentioned in the nave, although these bases to the niches are only 1 in. high, and those in the nave about 17 in. Again, the carving is precisely the same design; the way the hair is worn, also the moustache and beard, is contemporary with that of the heads in the nave. I find the carving in the nave much bolder, and worked with a firmer and more decided hand, than that in the lady chapel; this, with many other points of detail, would lead me to say that these five Decorated bays in the nave are rather later than the lady-chapel, although, as I said previously, designed by the same abbot, and much of the work here is now almost as perfect as the day it left the artist's hands some 550 years ago. During the time of Berkhamsted the body of Eleanor, queen of Edward I., rested at St. Alban's on its way to Westminster, and shortly afterwards a commemorative cross was erected in the High-street, close by the site of the present clock-tower. This cross was destroyed in 1702. During a visit of Edward II. to the abbey, John de Maryne caused a new shrine to be constructed (1302–8), and it was during the restoration in 1872 that about 2,000 fragments of this shrine were discovered, built into the eastern arches as common rubble masonry, and now wonderfully put together under the guidance of Sir Gilbert Scott. At the time of the fall of the Norman work, or south of the nave, much of the Norman cloister was destroyed. Eversden commenced its restoration, which, however, was not completed until the time of Mentmore, his second successor, 1335–49, and even alterations were made at a still later date at the time of the insertion of the beautiful south door of the choir,—these we shall see, and be able to define more minutely at the building. John, king of France, who was taken captive by Edward the Black Prince, at the battle of Poictiers, 1356, was for some time a prisoner in this monastery. During the rule of De la Mere (1381) the insurrection which broke out in Richard II.'s reign, under Wat Tyler and Jack Straw, threatened destruction to the Abbey. Upon the insurrection being quelled, the king held a court at St. Alban's, and stayed eight days in the monastery. Thomas De la Mere died 1396, and his monumental brass is still preserved in the chantry generally known as Wheathamsted, on the south side of the sanctuary. It is considered the finest brass in England, and worked during the abbot's life by a Flemish artist. We will now rapidly pass the screens and later work. The holy rood-screen divided the nave from the choir, and is ten bays, or 214 ft. from the west end. It is of the latter half of the fourteenth century, and at one time continued right across the aisles, thus entirely separating the church of the laity, which was the nave, from that of the clergy. The watching-chamber in the Saints' Chapel was erected by Wheathamsted about 1430. The monks from this chamber continually watched the shrine both by night and by day. The reredos or screen at the back of the high altar is later than the rood-screen, being the work of Wallingford, 1476–84. Wallingford also removed the Norman windows, and inserted the huge Perpendicular ones in the end of the north and south transepts. These windows measure about 26 ft. wide by over 30 ft. high, and are divided into seven lights. There is also a similar window inserted at the west end of the nave; this, like most of the work now done, was a great deterioration to the architecture of the structure. The rage for restoration was at this date felt throughout the country, and as you can now hardly enter one village church that has not some Perpendicular work, so now again the excitement for restoration is so prevalent that in many years to come there will hardly remain one building but will show its mark of the nineteenth century. The whole of the high-pitched roofs were now removed, and a long range of windows inserted in the Norman triforium arcade, which had originally opened to a chamber in the roof, as at Peterborough, Westminster, &c. The aisle windows in the nave were inserted by Wheathamsted, who also decorated and filled a great part of the church with painted glass. There are some good specimens of this glass remaining in the window behind the organ. The lamb of St. John the Baptist and eagle of St. John the Evangelist were the cognisances used by Abbot John of Wheathamstede. On the

war breaking out between the houses of York and Lancaster, the first blow was struck at St. Alban's, 1455, in the battle fought, it is said, in Key Field (south-east of the town) between Richard Duke of York and Henry VI. The king was made prisoner and led to the shrine, and thence to London. Many of the notoriety who fell in this battle were buried in the lady-chapel. In the second battle, fought on Bernard's Heath (north of the town), the king and queen, being victorious, proceeded to the shrine of the martyr to return thanks. Caxton, upon bringing the art of printing into England, set up a press at St. Alban's, and issued from it the first historical work printed in this country; a copy of this work is still preserved in the British Museum. During the time Cardinal Wolsey held the abbacy printing was discontinued, Wolsey saying if the clergy did not in time suppress printing it would be fatal to the church. This was 355 years since. Richard Boreman was the last and fortieth abbot. His appointment, in 1538, seems to have been made solely with the view to the surrender of the monastery to the Crown; and on the 5th of December, 1539, the whole of the vast pile was made over to Henry VIII. Dugdale says "the abbey and all the lands united together is worth at this day (1722) in rents of about 200,000 pounds, according to the improved rents of this day." The conventual seal is still in the British Museum. Cole, in one of his manuscripts, has preserved the following from a paper in the handwriting of Elias Ashmole, dated 26th August, 1868:—"Mr. Shrimpton, of St. Alban's, died about sixty years since, aged 103. He lived when the abbey flourished, and remembers most things relating to the monastery, amongst others that in the great hall there was an ascent of fifteen steps to the abbot's table, to which the monks brought up the service of plate, and staying at every fifth step (which was a landing-place) they sang a short hymn. The abbot usually sat alone in the centre of the table, and when any nobleman or strangers of eminence came thither, they also sat at his table towards the end. After the monks had waited awhile on the abbot, they sat down at two other tables placed on the sides of the hall, and had their services brought up by the novices, who, when the monks had dined, sat down to their own dinner." The greater part of the site of the monastic buildings was granted by Henry VIII. to Sir Richard Lee; the conventual church, however was excepted, and subsequently sold by Edward VI. to the inhabitants of St. Alban's as a parish church, in lieu of the destroyed chapel of St. Andrew, for the sum of 400*l*. The ante and lady chapels were divided from the church. The lady-chapel until recently has been a public school, having the ante-chapel for its playground. I think now we have gone rapidly through the chief incidents as touching upon the foundation and architecture of this, one of the most interesting buildings in the kingdom, and a lasting memorial of England's conversion to Christianity, and we have seen, as the mind became enlarged, educated, and refined, so also did the architecture advance step by step from the rude rough plastered work of the Early Normans until it reached the glory and perfection of English art at the latter part of the fourteenth century, and illustrated in the abbey by the exquisite, delicate, and beautiful carving both in the nave and lady chapel. I think I may safely say that this church must from the architect claim pre-eminence over any other in the land, in that it represents every phase of architecture from the Saxon to Late Perpendicular, and is truly a mine of inexhaustible wealth both to the archæologist and the architect. We must approach the building with feelings different from that of any other cathedral in the land, and in meditating in and around its hallowed walls, o'er which some 200,000 suns have set—think of the part it has played in the religious and social history of this our happy England.

Royal Association for the Promotion of the Fine Arts, Edinburgh.—The annual meeting of this Association was held in the Queen-street Hotel, Edinburgh, on the 29th ult. Mr. H. W. Cornillon read the report of last year, which stated that the year closed with a subscription list of 5,232 members, and that there had been an increase in the number of subscribers in Edinburgh. The actual amount subscribed was 5,493*l*. 12s. The aggregate value of works to be distributed amounted to 1,887*l*. The report was unanimously adopted, and the drawing of prizes then took place.

GREENWICH ROYAL NAVAL SCHOOL AND COLLEGE EXTENSIONS.

Since the "old salts" were dispersed, a few years ago, to become out-pensioners on the Hospital funds, in lieu of their maintenance as residents, numerous important alterations have been effected in connexion with the Hospital buildings. The four principal blocks to the north of the highway are appropriated to the uses of the Royal Naval College students and professors, and to the Royal Naval Museum, the most complete of its kind probably in existence, that may now be considered as nearly as possible perfect in scope and details. Two of these blocks, as may be well known, contain, opposite to each other, the famous painted Hall, with its fine collection of paintings of naval actions, and portraits of naval heroes, and the beautiful chapel of the Royal Hospital. Westward are detached buildings, including the Seamen's Hospital, for seamen of all nations, transferred from the *Dreadnought*, well remembered as an imposing object moored in the river off Greenwich. The present Hospital serves additional and important uses as a place to which sufferers from accidents are freely admitted and treated without question or hindrance. Other detached buildings on the western side of the grounds do not call for particular remark.

The adaptation of the old buildings to the uses of the College and Museum involved much work and ingenious contrivance in internal alterations, rather than in new buildings. One new structure, however, of an imposing and highly ornate character, has been commenced, and one wing completed, near the north-west corner of the college grounds. This is a racquet-court, 74 ft. long by 32 ft. 6 in. wide, with walls 28 ft. 6 in. high to the tie-beam of the roof. The entrance-hall has a dressing-room on one side and a marker's room on the other, with a gallery for visitors over them, extending the width of the court. The front is of Portland stone highly enriched in its members, and with a profusion of admirably executed stone carving by Mr. Raymond Smith, of Marylebone. The recessed central compartment is divided by pilasters into three bays, the lower portion of the face being in French rusticated work. Projections at the ends are made by pairs of advanced Ionic columns, with pilasters behind. The entablature and work above the cornice, with the altar-pieces, are highly enriched, the enrichments including large alto-relievo medallions in stone, of the naval heroes, Nelson in the centre, St. Vincent on the right, and Howe on the left. This effective structure is only one wing, or less than a third part of the frontage of the building to be erected, which, when completed, will have a large fives-court in the centre, and another building, the same as the one now finished, at the opposite end. The roof of the racquet-court is of wrought iron, with open principals, and is louvred at the crown. The work has been executed by Messrs. Geo. Smith & Co., contractors, of Westminster.

The most important building operations and extensions in connexion with the Hospital during the last few years have been in accessories to the Royal Naval School, on the south of the highway. These have included extensive laundry, bakery, and other premises for work; more recently a splendid gymnasium, and now a new wing, by which accommodation is provided for 200 additional boys, that will bring up the complement to 1,000 in all, which will probably be the ultimate limit of accommodation. The additional buildings above referred to were described in the *Builder* at the time they were completed, and need not be herein further referred to; but another important recent work should be mentioned,—the covering in with lofty walls and a louvred roof of the spacious swimming bath, adjoining St. Mary's Church, at the corner of Greenwich Park. The new wing runs alongside of the swimming-bath, and is 187 ft. long by 37 ft. wide, with an entrance-hall 22 ft. square, that is reached by a spacious flight of steps. Projecting from the back of the main building is a new kitchen, 41 ft. square, that will be furnished by the most approved appliances for culinary operations on a large scale. Part of the kitchen is covered by two floors; the other portion is open to the roof. The basement of the new wing is well lighted and ventilated, and only about half-sunk below the outside surface. It has a wide sloped space to the foot of the walls all round. The area is divided into a pupil teachers' dining-room and lavatory, sufficiently separated from a large scullery and two very large washing-rooms, with a boiler-house, coal-cellars, &c. The principal floor of the new wing is a very fine room, 187 ft. long, by 37 ft., and will be furnished with fifty-seven cross tables, providing accommodation for the whole of the 1,000 boys and their superintendents. Along the two side-walls are well-contrived racks for spoons and plates, with drawers under the ledge for knives and forks. The height of the room, from floor to floor, is 21 ft. Internally, as well as externally, the building is divided by the windows, with pilasters, between, into 15 bays. The box-girders, which are the principal supports of the upper floor, are shown in the ceiling of the dining-hall. On one side of the hall, and opening upon it, is an organ-gallery over part of the kitchen. The flooring of this room seems excellent work. A third of the space in the centre is laid diagonally with narrow oak boards, closely enough jointed and smooth enough to serve for a skating-rink. The sides are of red battens, laid in the ordinary way. The whole work is close up, and presents an excellent surface. The windows throughout are opened for ventilation by Elsley's patent fittings, upon which, by the way, Mr. Godfrey, resident clerk of the works, has made a valuable improvement.

The upper floor is a great dormitory, containing 117 beds, and is well furnished with means for obtaining light and fresh air. Ornamental gratings are extended along each side, at the foot and the middle of the slope of roof. Four ventilators are placed on the crown of the roof for the escape of the vitiated air. At each end of the dormitory there are two rooms for the occupation of the masters in charge. At the side of the large sleeping-room are lavatory and closets over part of the kitchen. The dining-hall and dormitory are warmed by hot water pipes and fitted with gas chandeliers and pendants.

The new works are designed by the Admiralty Director of Works, Messrs. Hill, Higgs, & Hill, of Lambeth, being contractors; Mr. Loughborough, chief clerk of works; Mr. Godfrey, resident; and Mr. Houghton, general foreman to the contractors.

MOVEMENT IN INDIA.

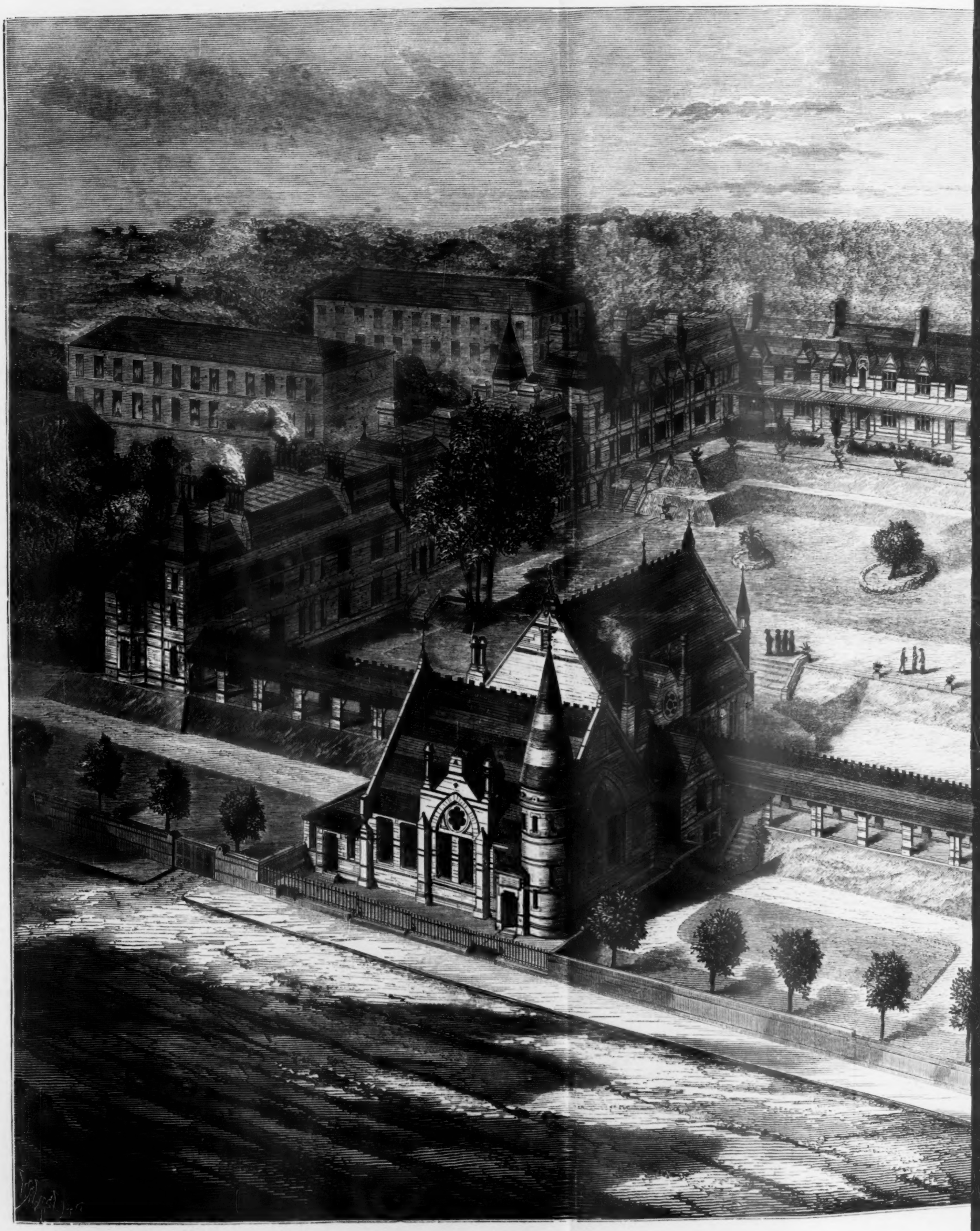
At the suggestion of the Prince of Wales, the Collector of Cawnpore, assisted by the Cantonment magistrate, has marked out the site of General Wheeler's entrenchment by stones sunk into ground level with the surface, and it is intended to plant the lines with cypress trees. The site has naturally been very difficult to trace after the lapse of so many years; but it is believed that the task has been successfully accomplished.

The post of Superintendent of the Madras Harbour Works, vacant by the death of Mr. May, C.E., has been given to Mr. Beach, C.E. Meantime the sea is playing sad havoc with the new works, and in order to prevent the encroachment of the waves, large gunny-bags filled with sand and stones have been piled up in front of the roadway at Royapooram, where the damage has been done.

It is said that the Madras Government has decided on substituting an establishment of Superintending and Executive Engineers for the present one of District Engineers. There will also, it is stated, be a Chief Engineer for Irrigation, and a second for Communications and Buildings; besides one of a lower grade for Railway Affairs. This is merely a return to a system which was in vogue some years ago.

Some person of a calculating turn of mind asserts, as the result of much arithmetical toil, that the State in India has spent, up to the year 1872, the sum of 100,000,000*l*. in making 5,500 miles of railway; 10,000,000*l*. in about ten years in providing improved accommodation for European troops; 3,000,000*l*. in constructing transport vessels to convey troops to and from India, including an iron floating dock to repair these vessels; 10,000,000*l*. on irrigation works; and at least 10,000,000*l*. in erecting Government offices.

According to the *Madras Mail*, elaborate plans are now ready, and will shortly be despatched to the Secretary of State, of the new public offices which are to be erected at Simla. It has taken over three years to decide on the purchase of the site, and will, in all likelihood, take three years more before the plans now sent home will be approved. The question is therefore propounded,—"When that approval is received, how long will it take before the Public Works



AGED PILGRIMS' ASYLUM, HORNSEY RISE, LONDON.—MR. W

Department of notorious slowness succeeds in finishing the buildings?"

Mr. Rice, the Director of Public Instruction for the Southern Presidency, has found among the rock inscriptions which he has lately been engaged in translating one which contains the vows of those ascetics, both male and female, who form such a peculiar feature of Hindoo religious life. They are said to be extremely curious, and will be printed.

It is announced by the *Times of India* that:—"To perpetuate the memory of the late Tukhutsingjee of Bhownugger, his mother has resolved upon erecting a palace of modest proportions at a cost of 15,000 Rs." What a Tukhutsingjee is we have not the remotest idea; but it must be something very important when the fact of being one elevates a 1,500*l.* house to the palatial dignity.

As a piece of Eastern news, we have the authority of the *Pekin Gazette* for stating that the fortifications at Sin-cheng on the bank of the Peiho, between Taku and Tientsin, by which the Chinese imagine that the ascent of the river is effectually barred, are completed. We are told that the work has occupied 10,000 soldiers for three years, and, most curious of all, that it has been achieved at the expense of the men as well as by their hands:—"They have consented to submit to reductions in their pay amounting to upwards of 500,000 taels for the purchase of the material requisite, and thus, without a single disbursement from the Imperial treasury, or calling upon the people to supply a single labourer, this fortress of extraordinary size and strength has been successfully completed." Could patriotism further go, and who would have expected to find it thus developed in the "heathen Chinee"?

A Ceylon paper, writing of the Colombo Breakwater, now in course of construction, says that the root seawall mound has stood the monsoon well. It is 750 ft. long, by 55 ft. broad, by 15 ft. deep, was deposited in 9 ft. of water by tip-wagons, and has absorbed 28,000 tons of rubble. An additional 8,000 tons have been deposited as a backing to the harbour-wall to prevent silting. About 200 ft. of the breakwater-wall have been built, or about a third of the whole; and the manufacture of the concrete blocks needed for the remaining portion of the structure is being carried on vigorously.

A "Northbrook" Hall is about to be erected at Dacca. Nearly 4,000*l.* have already been collected for the purpose. Sir Richard Temple is expected to lay the foundation-stone during this or next month.

A committee is sitting at present to consider the advisability of amalgamating the Irrigation Branch with the Public Works Department proper of the North-west Provinces under the Secretary to Government, the administration of the branches being left to chief engineers. The revenue from irrigation last year was 14 lakhs of rupees.

An Ootacamund paper notes that most of the thatched huts in the Kaity Valley have disappeared, and substantial tiled buildings have taken their place. It says,—"The red and white on the ground, and the blue canopy above, aided by the deep green foliage of the valley, now renders this part of the Neilgherries a perfect picture." Sanitary reformers have long urged the improvement of the villages as the present want of India, and have even advocated the construction of model villages here and there at Government expense to stimulate native rivalry. Voluntary effort of this sort is, however, best, and it is to be hoped that the example of the Badagas will be soon and widely followed elsewhere.

The administration report of the Madras municipality for the official year just closed, says:—"Mr. Clark, the experienced drainage engineer, was engaged for some four months in laying out a drainage scheme; and in the beginning of the present year he submitted his report, with a detailed estimate amounting to 234,800*l.*, for draining Black Town, the Fort, Pursewalkum, Chintadripett, Triplicane, Royapett, and Mylapore; it is satisfactory to be able to state that his scheme has met with the approval of the Government. It is hoped that the next annual report of the municipality will show that at least some progress has been made in carrying the scheme into execution." The *Madras Mail* adds, by way of comment:—"We trust it may; and we hope also that information will be afforded of how the 23½ lakhs are to be found for the purpose. It seems too probable that the water-supply project, by the time the water is made wholesome, will represent a liability of 20 lakhs, and this sum, added to 23½ lakhs for the drainage, *plus* a fair allowance for expenditure over estimate, may land the town in the uncomfortable position of owing half a crore of rupees, or 500,000*l.*, without any visible means of paying interest thereon, much less of forming a sinking fund to liquidate the liability in the course of a generation."

LARGE PROFITS ON THE NEWINGTON DUST DEPOT.

The large dust depôt, which the Newington Vestry a few years ago constructed and opened at Walworth, alongside the London, Chatham, and Dover Railway, appears not only to have proved a great success in a sanitary point of view, but has also become a source of profit, whereas before the depôt was established the vestry were put to a considerable expense in removing and clearing away the dust. At the meeting of the vestry last week, Mr. Barker, in moving the confirmation of the proceedings of the depôt committee, stated that at the end of the quarter it was found that 944*l.* 8s. 6d. had been realised by the sale of the dust, and, deducting from that, carriage 586*l.*, and various other expenses, there was a profit of 102*l.* 10s. 7d., or at the rate of 400*l.* per year. Dr. Cortis said it would be satisfactory to other parts of the metropolis to hear of the successful working of this depôt. The dust, setting aside its collection, was practically got rid of for nothing, as he did not estimate the cost of collecting it and bringing it to the depôt was more than the profit. Some members of the vestry having questioned the correctness of this statement, the clerk observed that it was as Dr. Cortis had stated it to be. The profits on the sale of the dust, separated from the sweepings, would clear absolutely the collection of the dust for the year. On this Dr. Cortis said it was a very gratifying result, when other parishes and their difficulties in the matter were considered. St. George's was paying 2,000*l.* per year, and had only half the number of houses. In their own case the contractors first paid for the dust, then they gradually charged for it more and more, and had not the vestry taken its collection absolutely into their own hands, the contractors would at this time have been charging the parish some 2,000*l.* or 3,000*l.* for what was now being practically done for nothing. The figures were, therefore, interesting to others besides the parish of Newington.

GREENWICH UNION INFIRMARY.

This building has been erected from the designs of Mr. William Wallen, architect, for 250 patients, upon a site of about three acres. The façade and general features are characterised by extreme unpretentiousness.

The general plan embraces three distinct blocks, united by corridors, each block consisting of three stories, with the exception of the centre, which has a basement in addition. The central, being the administrative, contains the doctor's, matron's, and steward's apartments, also a dispensary, a room set apart for the minister, and a committee-room; and further to the south, being a continuation of the same block, are the kitchen, scullery, and a detached washhouse. Under the whole of this portion of the building there is a basement, containing offices.

To the east and west are the female and male wings respectively, the receiving and isolated wards abutting on the corridors. The southern portions of both the male and female wings are occupied by the principal wards, each containing thirty-four beds, and measuring 106 ft. by 25 ft. The northern, together with the north-eastern and north-western, portions are devoted to special cases.

The upper floors, as far as these wings are concerned, are planned precisely as the ground-floor plan. Food and coal lifts are provided, also linen shoots. The staircases, passages, landings, and corridors are of fire-proof construction. The lavatories and water-closets are built outside the wards, and united by a necking.

Attention seems to have been paid to the subject of ventilation, for not only is the whole plan subordinate to this matter, the windows everywhere being opposite one another for the purpose of cross ventilation; but in addition to this, air-bricks, with the usual hit-and-miss gratings, are placed under every window, and air-flues are taken from the basement to the roof, with Sherringham's ventilators inserted near the ceiling line. The stoves also have a current of air passing from the outside to a warm-air chamber at the back, which can be introduced into the room at pleasure by turning a handle in front of the fireplace. The hot-water coils standing in the wards have also a current of external air conveyed to them, through pipes under the floor, which, upon coming in contact with the coils, becomes heated, and is diffused throughout the wards. The second-floor wards are further ventilated by ceiling ventilators, taking any vitiated atmosphere that may be left into the roof; and on the ridge are fixed Howarth's ventilators, the principle of which is an Archimedian screw.

The warming of the several floors is chiefly dependent upon the system of hot-water flow and return pipes, although open fireplaces are introduced, with warm air through the rear of the same, as before mentioned.

The pump is fixed over the new artesian well, and is a three-throw crank pump of Messrs. Baker & Son's manufacture.

The washhouse has fittings worked by steam power, comprising Bradford's patent washing machines, and rows of wooden washing-troughs, every alternate one being fitted with a perforated copper pipe, the steam from which boils the clothes; and hot and cold water is supplied to each. Then there are Patent Hydro-Extractors to drain the clothes, and wooden strainers, slate steeping-tanks, and waste or condensed water-pipes conveyed to drains. There is also a gas stove having two large roasting ovens, and hot plate, with rings for stewing and boiling.

ART HONOURS AT DULWICH COLLEGE.

Speech-day and the delivery of prizes at Dulwich College last week enabled the Rev. Dr. Carver, the principal, to make some interesting statements with respect to art studies at the college. He stated that as regarded the drawing and art schools they had been especially fortunate. In the list of last year's distinctions the number of honours gained at the Royal Academy by Dulwich boys was most remarkable. He attributed that first to the ability and energy of the master, now the oldest in standing at the college, and to the connexion of the college with the picture-gallery. Though the influence of the latter might be only indirect, yet that influence, by means of early associations, gave to the boys incentives and inducements to the study of the art, which they could obtain in no other way. After showing the distinguished university honours which scholars and former scholars of the college had won within the last twelve months, he added that they had obtained two studentships (one of them architectural) at the Royal Academy of Arts; the bronze medal of the Royal Geographical Society, four silver medals at the Royal Academy of Arts, and seven gold, silver, and bronze medals for drawing at the Science and Art Department, South Kensington.

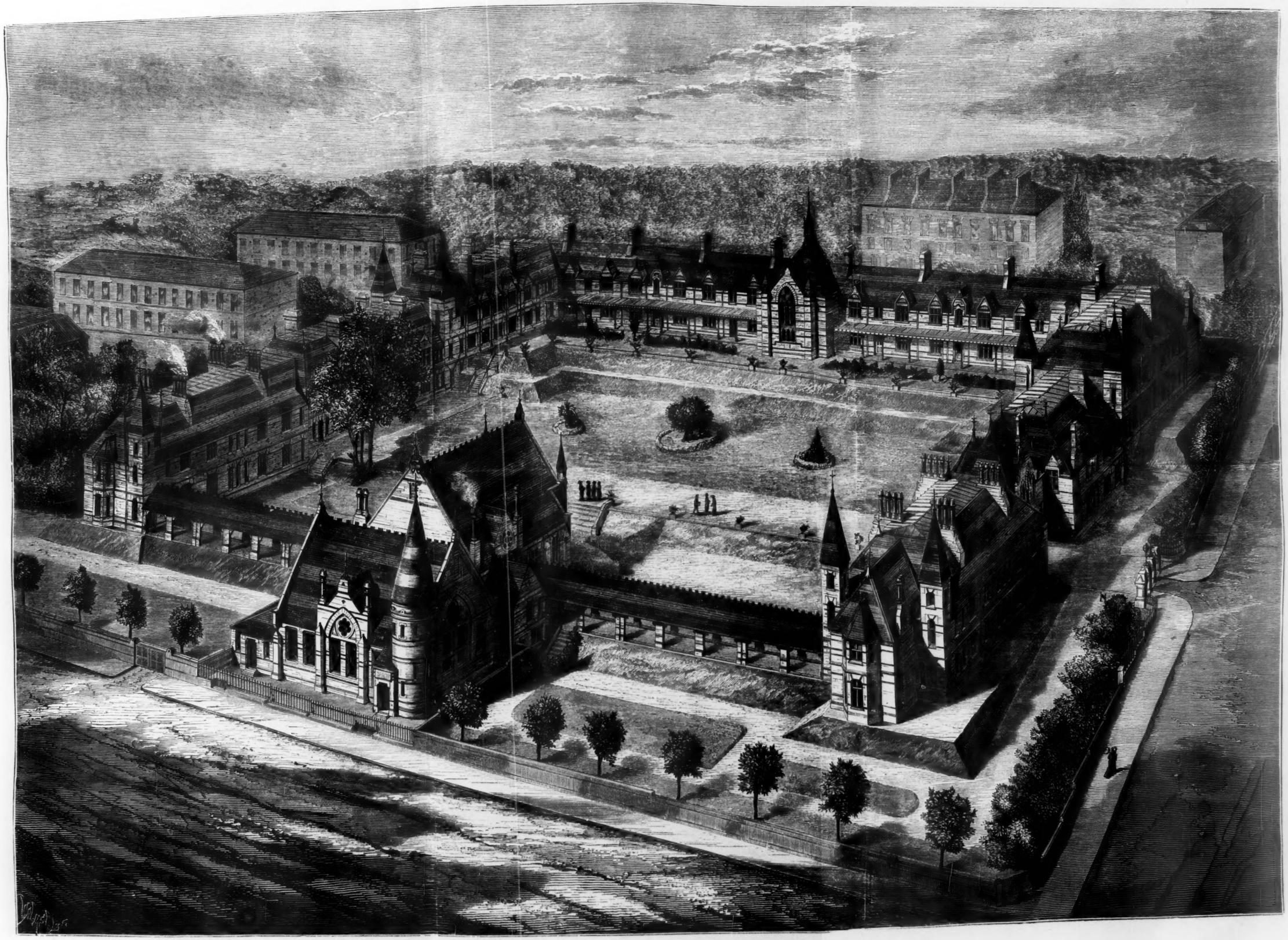
THE AGED PILGRIMS' ASYLUM, HORNSEY-RISE.

An illustration of the first portion of this building appeared in the *Builder* for Nov. 12, 1870. Recently, owing to the generous liberality of an old supporter of the Aged Pilgrims' Friend Society, to which this asylum is attached, forty new rooms, a dining-hall, kitchen, and new committee-room have been added. The new rooms are on the "corridor" principle, as referred to in the original description, and provide for each pensioner a sitting-room, fitted with a cooking-range, a recess for a bed, an inclosed scullery, with coal-box filled from the outside corridor, shelves, and cupboard. The dining-hall, reached by covered ways, is for the purpose of enabling the pensioners to dine together occasionally, when the liberality of friends provides the means, and for which the attached kitchen, with service hatch, scullery, larder, &c., provides ample requisites.

The committee have availed themselves of the occasion of the new works to add, in certain directions, to the accommodation of the original buildings.

The total cost of the buildings (providing accommodation for 120 pensioners), as represented in the engraving, is 19,800*l.*

The first portion of the work was carried out by Messrs. Hill & Sons, and the latter by Messrs. Niblett & Son; the architect in both cases being Mr. F. Boreham, of Southampton-buildings.



AGED PILGRIMS' ASYLUM, HORNSEY RISE, LONDON.—MR. W. F. BOREHAM, ARCHITECT.

ON THE CONSTRUCTION AND MAINTENANCE OF THE PUBLIC HIGHWAYS*

You are aware that during the past few years various materials have been introduced to supersede stone for paving streets having large traffic and heavy burdens; and though the experience gained by the engineers of London, Liverpool, Birmingham, and Bristol, and other large towns, is of much value, I think we may fairly say that the period of time over which their observation has extended in reference to asphaltes and wood is insufficient to enable them to come to a final conclusion as to the merits of these respective materials. That this is so may be gathered from the very opposite opinions given, nearly all based upon short-timed observation or theories. As to the durability, cost, noiselessness, and slipperyness of materials for roads, there should be no doubt whatever; but these can only be ascertained by actual observation, extending over a period of years, in streets with varying traffic as to number and nature of vehicles and weight of loads, and it would be unwise, most unwise, to reject a well-tried material for others, some of which have been pushed into the market without trial of any sort whatever. On the other hand, it would be unwise to expend large sums of money in laying stone pavements if there are other obtainable materials more suited to paving purposes. I shall therefore suggest that trials be made with certain materials. Previously, however, to my so doing, I will proceed to examine their qualities. For this purpose I have communicated with the engineers of most of the large towns, and have personally visited several. If durability and cheapness only had to be considered, so far as my observation goes there can be no question as to the superiority of granite over all other materials used to pave streets with, more especially if laid so as to form a tram or trackway for the wheels of heavily-laden vehicles to run along. And this opinion is shared by all those who have lengthened experience of the requirements of busy streets; but these are only two of many considerations to be borne in mind. There are also safety to horses, noiselessness, easy traction, freedom from mud and dust. Hence the attempts to supersede the use of granite as a paving material. Probably the desirability of decreasing the noise caused by the vibration of vehicles in business thoroughfares has had more influence than anything else in these attempts to supersede the hard granites, and we must bear in mind that however desirable a perfectly noiseless pavement may be, in some thoroughfares it is a question that we can afford to discard, if purchased at too high a cost, in some streets, where neither the occupations of the inhabitants nor the pedestrian traffic is such as to force this desideratum forcibly upon us.

So far as I can ascertain, wood blocks, squared like granite pitching, appear to meet more of the requirements than any other of the newly-introduced materials, if we are prepared to put on one side the question of cost altogether; though, on inquiry, I find a host of objections urged against its use, some of which are worthy of attention,—the first being its permeability to wet, the separation of its fibres, and consequent absorption of "dung and putrescent matter," which are said to become "highly noxious." Again, it is urged that the blocks are separated by concussion, thus opening the joints and permitting the wet to reach the foundation; the wood thus being constantly wet, in hot and dry weather gives off, in evaporation, very foul matters, which taint the atmosphere sufficiently to injure health. These are allegations difficult of refutation; indeed, by actual observation in some of the London streets I am convinced the entire area of wood pavement is constantly saturated, and that it wears down very rapidly when compared with granite, under the narrow tyres of continuous omnibus and railway-van traffic. How far the objections as to tainting the atmosphere are valid I must leave those who are more competent to judge to decide, and confine myself to its actual cost, durability, and general suitability as a paving material.

In Bristol, one, or a portion of one, of the main streets was laid down, and eleven months after the borough engineer reported that:—"The general appearance and surfaces of these pavements continue up to present time in much the same condition as when laid, but I have caused portions of the Wine-street paving to be removed at either end of the street, in order to ascertain its state, and can find no perceptible difference in the same at either opening, there being no appearance of decay, and the wear of the surface of the blocks is scarcely perceptible, but at the Union-street end of Wine-street the surface-water has percolated through the joints of the wood to the foundation, this has rendered the pavement at this end of the street less rigid, and the constant working by the passing of the traffic over it caused several of the blocks to split or crack, and it is probable will necessitate the relaying of this end of the street before long."

Two years' experience enabled Mr. Ashmead to confirm his opinion as to the leakage of the joints destroying the pavement, for he says:—"Although nearly twelve months have now elapsed since my last report on this subject, the general appearance and surfaces of the pavements in Wine-street, Broad-street, and the Exchange, still continue in much the same condition, nor have the portions of Wine-street (relaid by the company) been much improved thereby, as the surface-water finds its way through the joints, and a larger proportion of the blocks in this street are split or cracked; but the pavements of Broad-street and the Exchange appear to be wearing well, and are more rigid and firm, and free from the defects of the Wine-street pavement. This last paving has now been laid about twenty-three months, and Broad-street and the Exchange about seventeen months.

Writing personally to me, Mr. Ashmead says, "The wood will require repair in four or five years, but the comfort is so great that some people prefer paying for the luxury; but there is nothing like granite for durability and economy." How far we should be justified in laying down certain streets with a costly and luxurious article out of the general rates it is for the local authorities to determine.

The evidence of Mr. Deacon, C.E., the engineer of Liverpool, is to the effect that the pavement laid in Bold-street, in September, 1874, has worn but little.

The borough surveyor of Birmingham says that wood "presents an even surface, affords good foot-hold for horses, is pleasant for riding over, free from noise and mud,—dust, however, rising rapidly; it is capable of being easily cleansed, but, like all other pavements, it is somewhat slippery in certain states of the weather."

I have made observations on the condition of wood pavement in London; they are several, and I have extracted from a recent publication descriptions of them:—

Croskey's Wood Pavement.—Several plans of wood paving have been of late years proposed. One by Mr. Croskey was to manufacture cross-grained planks of wood of any length, which, being placed side by side, are forced together by pressure, so as to form a compact homogeneous surface of wood, which was to be laid upon concrete. This plan does not seem to have been tried, at least in this country.

Harrison's Wood Pavement.—This system consists of a concrete foundation, upon which strips of wood, 2 in. by half an inch in thickness, are laid. Wood blocks 3 in. in breadth, are placed upon these wooden strips, and heated asphalte poured into the joints, which penetrates under and adheres firmly to the blocks.

Henson's Wood Pavement.—The main principle on which Mr. Henson proposes to construct his paving, is placing *felt* on the bed and between the joints, thus giving, as he asserts, an elasticity to the road, and allowing by the felt jointing for the expansion and contraction of the blocks; in one roadway they are levelled on the top edges, in another at every fourth or fifth block. And in another a V-groove is to be cut down the centre of the block, the object of this last being to prevent the surface-water from soaking down the joints to the foundation.

The Ligno-Mineral Wood Pavement, which is laid in Gracechurch, Fore, and Coleman streets, possesses certain peculiarities, and differs from others in that it is mostly composed of hard wood, such as elm, oak, beech, or ash, which has been subjected by hydro-carburetted oils to a treatment termed mineralisation. The blocks, which are 9 in. long, 3 in. wide, and 6 in. deep, are sawn at an angle of about 60 deg., the object of this being to expose the fibre obliquely to the wearing face, and to distribute the weight of the traffic from the one block to those adjacent to it in the line of thrust. On the sides of the blocks, near their bases, a groove is cut, which is filled with an asphaltic mastic (pitch and tar), during the process of laying. The blocks are laid on a concrete foundation, the angle of each course being in an opposite direction to the previous one. The remainder of the joints to the surface are filled in with a grouting of lime and gravel.

Carey's Wood Pavement is perhaps that which can be most rapidly laid down and repaired, and is formed as follows, viz.: the blocks are cut 4 in. wide by 9 in. long, and to the depth of 5 in. or 6 in. according to traffic; these blocks are shaped with alternate convex and concave ends, and are laid on a bed of ballast or sand, averaging 2 in.; the joints which have been left about ¾ in. wide, are filled with a grout of lime and sand. The advantages claimed for this pavement are, that by the peculiar shaping of the blocks they will not be shifted from their positions; and further, that the weight that may be put on each block is thus dispersed over an extended area.

Messrs. Mowlem & Co.'s method of laying wood paving is to form a foundation of concrete, varying in thickness according to the nature of the subsoil and the traffic; then to pave with blocks of yellow deal, 3 in. wide and 6 in. or 7 in. deep; the joints, which vary from ¾ in. to ½ in. are filled in with sand and lias lime, and the surface is afterwards indurated by strewing it with shingle.

The Improved Wood Pavement is formed of two layers of 1-in. boards laid transversely and longitudinally on the old road foundation, which is made up with sand or dry earth to the proper curvature; on these boards wood blocks are placed, the longitudinal joints being kept three-quarters of an inch apart by a fillet (which is nailed to the flooring) and the heading joints butting. The joints from the fillet up to the surface of the road are filled in with fine ballast, run with a liquid tar, and caulked with a machine made for the purpose: the road is then strewn lightly with small gravel and is ready for use. The principal advantage claimed for this system is that the flooring of planks forms an elastic foundation, and tends to distribute the weight equally over the whole pavement, while the additional elasticity will lessen the wear of the blocks.

The Asphaltic Wood Pavement.—The mode of laying this system of wood paving is as follows, viz.:—A concrete foundation, composed of blue lias lime and ballast in proportions of one part of lime to five or six parts of ballast, is laid to a thickness of 6 in. and to the correct curve of the road. Over this is laid a layer or bed of mastic asphalte half an inch in thickness, upon which wood blocks are placed in transverse courses with the grain of the wood upwards, a space of half an inch (or more if desired) being left between each course. Into the spaces, or joints as they are more usually called, heated asphalte is poured to a depth of from 2 in. to 2½ in. up the block.

These are the pavements of wood, tried in London and elsewhere, and one cannot but be struck with the fact that only one attempt has been made in the metropolis to preserve the timber chemically, by such processes as Kyan's, Burnett's, Renwick's, or Boucherie's.* In my inquiries I have only found another instance where any such attempt has been made, and that is at Sunderland. Here I find, from a report of the borough surveyor, dated 17th December, 1875, that as far back as October, 1867, a strip 6 ft. wide was laid with creosoted Baltic red wood; a strip of 3 ft. wide with creosoted beech; and a strip of 6 ft. wide with uncreosoted oak; and it appears that after eight years, with a daily traffic of 1,300 vehicles, the total cost of repair was 101l., which was equal to a cost of 6½d. per superficial yard. For the last five years, in those portions where the creosoted Baltic and beech, and uncreosoted oak were laid, no repairs have been necessary. The average vertical wear of the entire pavement has been ¼ of an inch, the Baltic has been ¼ of an inch, the beech ¼ of an inch, and the oak has not appreciably worn at all. The creosoted timbers are said to be harder than when first laid; the beech and oak are spoken of as being too hard and slippery. The surveyor says that the use of creosoted setts dispenses altogether with the cost of watering. This deduction is questionable, though the results are certainly the most favourable I have obtained, both as to wear and cost of wood pavements.

The method of laying a wood pavement by

* By Mr. Ellice-Clark. See p. 764, *ante*.

* Kyan saturates the blocks with a solution, a bichloride of mercury; Burnett with a solution of chloride of zinc to be absorbed in a vacuum; Renwick boils the blocks in coal tar; and Boucherie uses impure pyrolignite of iron.

having longitudinal and transverse boards beneath for a foundation, is, to my mind, a faulty one. In the first place, by personal observation, I have seen a heavily weighted vehicle produce a depression of an inch as it passed along the pavement, which sprang up to its original form as the burden left it. Again, the "elasticity" which is claimed to be an advantage is, to my mind, the reverse. If the pavement sinks beneath the load it has to carry, it is like having a surface of indiarubber; with this depression an inclined plane of 1 in 7 is formed with a wheel 4 ft. in diameter, and one-seventh of the load must be raised this inch, and this is continually going on with such a bottom. It is next to an impossible thing for the numerous joints in the area (a diameter about 18 in. under 3 tons) thus affected by each wheel to remain watertight, be they made with asphalte or pitch, and the water must pass through them on to the planking below, which, sooner or later, must be rotted. These open joints in the end must wear the edge of the blocks round,—a fact I noticed in Birmingham, on close examination, which caused a most unpleasant vibration as a light springed vehicle crossed them.

I am certainly at a loss to understand this insistance of some surveyors for elasticity in a paved road, unless it be for the preservation of the horses' feet, which do not last so long on the "stones" as on a softer road. As for the mechanical effect of traction, it is totally opposed to all laws of mechanics for easy traction; and McAdam's theory, of the top stones rubbing against a concrete bottom, and thus wearing round, and being displaced, and from whence I imagine the present desire for elasticity comes; as the top pavement is a fixture,—is untenable. I think it might be laid down as a rule that the harder the bottom of a road is the better, whether for wood, asphalte, granite, or broken stone, and if you do not start with this initial you will never have a sound roadway. The difficulty to be overcome appears to be in keeping the wet from percolating through the joints, which are made wide so as to give a better foothold for horses. I think it is a questionable mode of laying pitchers, whether of wood or stone. I prefer having the joints closer than I have hitherto seen them for wood; first, because there is less chance of the water finding its way to the foundation; secondly, these joints always wear away quicker than the blocks, leaving innumerable places for the lodgment of horse-dung and filth; thirdly, the traffic wearing the pitchers round. A demonstration of this can be found easily. A small joint, so long as it is a perceptible joint, is a preventive to slipping, and enables a horse to rise if it falls.

There now remains an examination of asphalte as a material for paved roads.

The most noted of these is that of the Val de Travers Company, which is described as limestone, containing about 12½ per cent. of bitumen, obtained exclusively from Neuchatel, Switzerland. It is claimed for it that neither "atmospheric heat nor frost affects it." In laying it for roads, it rests on a bed of concrete sufficiently thick to stand the traffic. The asphalte in its natural state, reduced to powder, is brought to the works hot, and compressed with heated irons and rollers uniformly over the entire area to be covered, leaving no surface seams or joints. It is laid about 2 in. to 2½ in. in thickness.

The next asphalte that has attracted attention is that termed Limmer. This, like the previous material, is laid on concrete. It is brought from Hanover; mixed with a certain proportion of sand and bitumen (the company say that the asphalte contains from 17 to 20 per cent. of bitumen); heated in caldrons and laid on to the concrete about 2 in. in thickness, and then is smoothed with irons to the requisite surface.

There are several other asphaltes that have been tried, but only to a limited extent, except, perhaps, Barnett's, which appears to be a mixture of pulverised iron ore and mineral tar made liquid by heat, and spread as the other asphaltes, about 2 in. thick.

The battle of the materials is almost as fierce as the "battle of the ganges." The promoters of asphalte and wood pavements both claim the same merits, and there appears to be a diversity of opinion amongst those competent to judge, as to which is the better material of the two. The engineer of Bristol says,—"My experience of asphalte is not large nor favourable: the first cost of Val de Travers was 16s. 6d. per yard, but it has not lasted here more than six years, and is now in a very bad condition; the wood will require repair in four or five years."

No asphalte is to be laid in the Birmingham roadways, as the gradients are so unsuitable.

As a material for footpaths, Mr. Till, C.E., the borough engineer, says,—"I cannot speak favourably of its durability."

The City of London engineer, Mr. W. Haywood, C.E., has prepared an elaborate report on the subject, setting forth in detail the result of his experience of both wood and asphalte; and as no one has either had such opportunities or facilities to come to fair conclusions in the matter, I extract these conclusions *verbatim* from his report. They are,—

"1. As regards convenience.—That asphalte is the smoothest, driest, cleanest, most pleasing to the eye, and most agreeable pavement for general purposes, but wood the most quiet.

2. As regards cleansing.—That wood may be kept cleaner than it hitherto has been, but will be more difficult and expensive to cleanse effectually than asphalte. That as both pavements require occasionally strewing with either sand or gravel, there is not much difference between them in that respect.

3. As regards construction and repair.—That asphalte and wood, taking all seasons and all weathers into account, can be laid and repaired with about equal facility, but that the smallest, neatest, cleanest, and most durable repairs can be made in asphalte.

4. As regards safety.—That whether considered in reference to the distance which a horse may travel before it meets with an accident, or the nature of the accident, or the facility with which a horse can recover its footing, or the speed at which it is safe to travel, or the gradient at which the material can be laid, wood is superior to asphalte.

5. As regards durability and cost.—That wood pavements, with repairs, have in this City had a life varying from six to nineteen years, and that with repairs an average life of about ten years may be obtained; that the durability of the asphaltes is not known, but that under the system of maintenance adopted, they may last as long as wood; that contrasting the tenders for laying and maintaining for a term of years the two best pavements of their kinds, wood will be the dearest."

We must remember that Mr. Haywood is speaking of ordinary fir timber unpreserved in any way. Probably his opinion would be materially altered if he was aware of the durability of the creosoted timber in Sunderland.

Mr. Haywood, in reporting on the comparative safety of these materials, says that a horse would travel 132 miles before a fall took place on granite; 191 miles on asphalte; and 446 on wood. This is the experience of London streets; but we cannot be guided by that in Derby. It is the practice in London to move all railway vans, and a large proportion of heavily-weighted vehicles, at a trot. With us such vehicles are transported at a walking-pace, and as accidents increase *pro rata* with the speed and load, we should not be liable to anything like so many.

My own comparisons of these materials are that for a very large number of streets where the roadway is fairly wide, where there are few shops, and where the occupation of the inhabitants is such as noise would not be a great objection, granite is the cheapest and best material that can be used. That in streets of business, where absence of noise is a desideratum, preserved wood paving is the best, though it is expensive. That asphalte is an impracticable material to use in our town, where it would frequently have a greasy surface, unless there is some means of making it less slippery in damp weather. I have had submitted to me a model by the Val de Travers Co., which shows an introduction of small iron studs on the surface, with asphalte between; but my experience goes to prove that the mixing of two materials differing so essentially in their toughness and hardness is quite wrong; that the studs would in a few years be left so high by the wear of the asphalte as to be dangerous, and I cannot recommend you to lay any large area with this, though the Val de Travers Co., of Birmingham, are willing to lay a trial piece and charge nothing if it is not successful, and it would only be fair to give them a trial.

Royal Architectural Museum.—The Royal Academy have voted 100*l.*, and the Clothworkers' Company twenty guineas, towards the special fund now being raised by the Architectural Museum, Westminster, in aid of its School of Art, &c.

THE CHOIR OF ST ALBAN'S ABBEY.*

It is upon the choir, beside the great altar of which John of Wheathamstede rests, that I have to speak. That most noble choir, surmounted by the grandest of ancient lanterns, is now, I am thankful to say, at length in a state of safety, and it may be hoped that in the future it will become one of the finest cathedral choirs in the kingdom, while its restoration on its old lines will make it most interesting to antiquaries, as the only perfect reproduction of the Benedictine arrangements once so common in our large churches, which, through modern alterations elsewhere, can now be seen. While it seems little short of providential that the great church of St. Alban should have kept its roof on during all the troubles through which it has passed, it is truly wonderful that here only, as far as I know, is there continued perfect the ancient arrangement of the screens. I have actually heard persons advocate the destruction of the western screen of St. Alban's choir, and so the turning of this noble church into one great tunnel, but as this is work for a mining engineer, and not for church architects, we may dismiss this question entirely at the present moment, merely pausing to say that, by means of this screen, the great church is divided into two noble and available churches, one for cathedral and the other for parochial use in any future arrangement. It appears to have been general in Benedictine churches to bring the choir screen forward several bays into the constructive nave, and to use the great transept as the choir transept; this was a very grand arrangement, and may be seen at Westminster, Winchester, Norwich, and several other great churches of note at the present time, so far as the actual limits of the choir is concerned; though none possesses *in situ* the perfect westward termination of the choir indicated by the screen at St. Alban's. In many of the cathedrals, such as Salisbury, Lincoln, and I may add on a small scale at Rochester, the present, as well as the original, site of the western choir-screen is across the eastern arch of the central tower. In all these cases, however, the church is an original cathedral church, and we find a separate choir-transept provided distinct from the great transept of the church; but in Benedictine arrangement the great transept itself is included in the choir arrangements, to which, with its lantern, it proves a noble addition. There could never have been any serious doubt about the correctness of this arrangement at St. Alban's. Now, most happily, in the preparations for laying the new floor of the choir the exact original ground-plan of its fittings was discovered, and all question as to the lines of its future construction set at rest. I shall hope to show you to-morrow, in the choir itself, the exact position of the stone foundations for the stalls and tabernacle work, as they were discovered on the removal of the modern floor. These foundations exactly explain what has never been hitherto exactly understood. They show what is meant by the apparent double-screen arrangement shown to the westward of the choir of Peterborough in Bridges's plan; they show why the western face of the present screen of Winchester was left as it was left, till, eighty years or so back, it was cased with modern stonework, which has now given place to modern woodwork, which, had the double screen remained, would not have been required; and, in fact, these discoveries give us on the spot the exact ground-plan of the west end of a Benedictine choir. The stall foundations of St. Alban's choir were found to begin at the easternmost piers of the great central tower, to cross the north and south arches of the lantern, and to be continued over the pier arcades towards the west to within one arch of the present rood-screen; at that point the foundations were returned, giving space, as it appeared, for a stall north and south for the abbot and prior of the establishment. There was thus provided the vestibule of which I spoke at Northampton in commenting upon Bridges's plan of the ancient Peterborough choir, a kind of ante-chapel, as we should say, comparing the vast chapel of a great monastery with a college chapel of present days, probably kept as a procession path, at all events forming a valuable and convenient approach both from the cloisters to the south, and for such of the officiating clergy as had to enter the choir from the nave-altar on the west side of the rood-screen. But con-

* Substance of a paper read before the Architectural Society of the Archdeaconries of Northampton and Oakham, at St. Alban's, on the 19th of July, by the Rev. Owen W. Davys.

venient as was this ante-chapel, so to speak, and necessary for adaptation in any future arrangement, we must look for the noblest effect in the ancient, as it will undoubtedly be in the modern choir of St. Alban's to its eastern end; there, unencumbered by woodwork, stood, and stands, a noble sacrarium. A screen, similar in character to, but surpassing in size, those of Winchester and the beautiful Hampshire Christ Church, a screen which, I need not say, I do not like the less because Abbot John seems its original architect, with a central space for a silver cross, long stolen, and elaborate ornaments now much defaced, formed such a reredos as never was before designed for the principal altar of this church. On its right and left are placed elaborate shrines, a miniature king or Henry VII.'s chapel, to the memory of Abbot Ramryge on the north, while on the south an appreciative successor marked his veneration for John of Wheathampstead with a richer shrine than John had designed for himself in the south aisle of the presbytery, and while he laid his body to rest on the right hand of the altar, failed not to bestrew his tomb with the wheat-ears of his native valley, and to garnish it with the departed abbot's favourite legend, "Valles habundabunt." This great altar-screen then, and its flanking shrines, formed in the past, as they do in the present, the great eastern termination of St. Alban's choir, leaving a noble space now happily clear, and laid with original brasses, and other monuments of great antiquarian value and historical interest, among which will shortly repose, I trust, on its original site, the largest and most elaborate brass in England,—the great and well-known brass of Abbot Delamere. A noble flight of steps, laid to the original levels, leads from the lantern up to the sacrarium; and the grand vault of decorated wood above, with John de Hertford's and his successor's exquisite, though simple, clearstory, completes a work once unrivalled. The roof of the sacrarium was always, with its beautiful decorations (the work of Abbot John again), open to view, but a great discovery was lately made of the roof over the western arm of the choir. On this, as my friend—a colleague in the secretaryship of the St. Alban's Architectural Society,—Mr. Ridgway Lloyd has lately read a paper before us, which is now in course of publication, and will point out its features on the spot, I hope, to-morrow, I need not now say more than when the uninteresting boards of the roof, as they then appeared, came to be cleaned, rich panels appeared, beautifully decorated, and most appropriately so for a great choir, with the verses of the *Te Deum*. I have thus far limited myself to ancient arrangements, and recent discoveries, in the choir of St. Alban's, but I cannot close my paper without recollecting that as St. Alban's, we trust, will now, with very little further delay, become a cathedral, it will be necessary soon to construct upon the ancient monastic lines a modern cathedral choir. Now, in talking of monastic lines, and Benedictine arrangements, I have no fear of being misunderstood by the members of those joint societies whom I have the honour of addressing, but it may be needful to guard against misapprehension out of doors, for I really believe that such antiquarian terms receive sometimes a very modern interpretation, and that a restorer of St. Alban's, who admits them into his vocabulary, might be held, by certain persons, as desiring an immediate importation of a Benedictine abbot and monks into their old quarters. I need not say that I have no such project in view; an arrival of excellent gentlemen of that description might enliven the town, but I do not think that they would be the men to promote its best welfare; the Abbot of St. Alban's might be its valued ruler once, but his glory has departed to return no more. The abbot and monks declined; it will be necessary for the future working of the choir of St. Alban's to have a choral, possibly a collegiate staff, and therefore on a provision for the accommodation of such a staff, when it can be appointed, let me make a few concluding suggestions. Nothing would work better, I am convinced, for a modern church arrangement here than than the reproduction of the ancient ground-plan of this choir. The western vestibule, or ante-choir, of which I have spoken, would form a convenient and effective approach to it; to the north and south of this ante-choir, the organ, divided, as at Westminster and St. Paul's, should be suspended, the key-board being attached to one of the sections, and the connecting action carried under the floor; the effect of an organ thus placed would be not only musically good, while, architecturally, it would not cut the central view from the nave to the choir, but its convenience and economy is obvious, one instrument thus serving for the services of both the choir and the nave. The return stalls at the west end of the tabernacle work might serve, as at Ely, for the bishop and the head of the collegiate establishment respectively, who will doubtless be at first identical with the rector of the church; the remainder of the stalls, with tabernacle work, which might be carried on to the westernmost piers of the central tower, being appropriated to the other members of the collegiate church establishment, including the honorary canons, the minor canons, and the precentor. It would seem practically admirable, while carrying on the stalls themselves to their original boundary at the eastern piers at the central tower, not to continue the tabernacle work above them. That this tabernacle work was originally so continued, and that the choir of monks filled the whole, is evident, not only from the recent discoveries made, but by the record of a miracle, as supposed by the chroniclers, whereby the second big bell, Albinus by name, having burst from its holdings, was marvellously kept from falling on the heads of the monks in choir assembled by the apparently feeble help of two broken beams. Doubtless, then, the large monastic choir of St. Alban's filled the whole space indicated by the recently discovered stall foundations. But it need not be so now; for a choir charged with the celebration of the cathedral service of the English Church the space westward of the cross would be ample, while the transepts would be available for congregational use, as at Westminster, at times when the space proper for the choir was found to be insufficient. To the eastward the grand sacrarium would afford a structure unrivalled for the great offices of the Church, especially for the ordination of her ministers. Much has to be done at St. Alban's, and the agencies to do it are at present most insufficient, more money and more men both being wanted. When money has been found to restore the stalls of the choir, money will be still wanted even for the barest remuneration for the services of the men to be put into them; and while we are talking of the choir, the nave is said to be falling. As the noblest and most useful buttresses to the base, would that the cloister could be restored, and adapted with its refectory and adjacent buildings as a training college for schoolmasters, like St. Peter's College, Peterborough; we could then show our friends from Peterborough diocese next time they come, not only, I trust, a restored choir, but a body of singers therein to be valuable hereafter, not only to St. Alban's, but the whole church, who with their superintending clergy, and perhaps some few others, might form the choral and collegiate staff which the new cathedral would require. This suggestion I cannot but think is practicable, as it would be found most useful to the new cathedral and diocese; and it need not exclude the project of a divinity college, of the idea of which some have already spoken. But while education is in every man's thoughts, and while an increase in the number of suitable training colleges is more and more demanded, what better opportunity could be embraced for securing one for the new diocese of St. Alban's by the side of its own cathedral? But I must not further venture to pierce the veil of the future; in the hands of Sir Gilbert Scott, to whose skill we must mainly look for the reproduction of the stall-work of St. Alban's choir, I feel sure that its arrangements are safe: to the wisdom of the great Orderer of future events we must devoutly entrust those further efforts which may cause the great choir of St. Alban's daily to resound with noble praises, rising to heaven from one more cathedral.

THE LAMBETH SCHOOL OF ART.

The distribution of prizes in connexion with the Lambeth School of Art took place last week, at the Society's premises, Miller's-lane, Kennington, the Rev. Canon Gregory presiding. The several prizes were awarded for productions in drawing, together with models and pottery designs of a varied character. Mr. Yeames, A.R.A., in the course of an address to the students, said that men who had thought about works of art laid great stress on students who wished to become artists practising composition as a means of developing their inventive and imaginative faculties. They must have ideas to express when they began a work, and the greatest proficiency would not give them an atom of idea unless they jotted down things which struck them in nature. As a means of developing the imaginative faculties, he advised the students to sketch from memory any attitude that might strike them in the street or in their houses, groups that they might often see talking together, with the landscape behind as a background. By constantly doing this they would soon have an accumulation of facts, and find no difficulty in considering any subject they might feel disposed to choose. The various prizes having been delivered, Canon Gregory next presented a testimonial to Mr. Sparkes, who has been teacher at the school during the last twenty years, but who has now become head master of the schools at South Kensington. Before presenting the testimonial the Canon observed that the school was not merely a theoretical school, as evidenced by some of the subjects for which prizes had been gained, but it was also practical, teaching people to direct the talent they might possess in an artistic direction to stimulate a love for beauty for its own sake, and to cultivate a taste for the beautiful in art. By so doing, he thought they helped to advance the civilisation of the country, and to develop that taste in many people who knew not what art was in its abstract form. Referring to Mr. Sparkes, he said they were all extremely grateful to him for not severing his connexion with them now that he had become head master of the schools at South Kensington. He had the greatest pleasure in presenting the testimonial as a proof of the regard and respect in which he was held by the school. Mr. Sparkes, in acknowledging the testimonial, said he should always take an interest in the welfare of the Lambeth School of Art.

"MODEL HOUSES ASSOCIATION."

A Vice-President of this Association wishes to know why we did not mention their last annual meeting, which took place on the 26th of July. He says "we had a bishop in the chair (Bristol), a prince of the other church (Manning) to speak for us, and a distinguished sanitary doctor to back him up. The Duke of Cambridge is our president, and we have a wonderful list of vice-presidents." That is just it. They *have* a long list of vice-presidents; and for a year or two past we have seen constant announcements in the newspapers of how this or that distinguished individual has joined the society, and of what great things the society was to do. We examined the balance-sheet distributed at the meeting in question, and have looked at some of the "model" property, and, truth to tell, have no compliments to offer to the managers. The actual good result of the large amount of money spent on officials, and of the continual trumpet-blowing, is altogether incommensurate. We are disposed to believe that any clear-headed individual in a purely commercial way could have done what the Association has done, without loss, and without calling on the public for a shilling.

LLANTONY ABBEY.

The Worcestershire Naturalists' Field Club visited Llantony on the 11th ult., when Mr. E. Lees read a paper "On the History of Llantony Abbey," from which the following particulars are gleaned:—

According to ancient legends, St. David, the uncle of King Arthur, and patron saint of Wales, wandering hither, became so delighted with the spot, as congenial to meditation, that he built a chapel in this sequestered recess, and settled down as a hermit. The poet Drayton says of him in his "Polyolbion":—

> "He did not only drink what crystal Honddu yields,
> And fed upon the leeks he gather'd in the fields;
> In memory of whom in the revolving year
> The Welshmen on his day that sacred herb do wear."

The chapel was abandoned after St. David's death, but in the reign of William Rufus, the Norman, when Hugh de Lacy, Earl of Hereford, was hunting in this direction, one of his retainers chased a deer to the ruined chapel, and, struck with the sanctity of the place, became, it is said, so impressed, as to resolve to abandon the world and all evil deeds, and make prayer his business in this solitary glen. Hermits were esteemed for sanctity in those days, and some time after, this retainer of Earl Hugh was joined by a priest named Ernesi, a chaplain to the Queen of Henry I. They then united their influences upon the piety of the earl and the queen, and persuaded them to found a priory at this spot for regular canons of the Augustine order, and this effected, Ernesi became the first prior, in

A.D. 1103; but a strange history followed. During the wars of King Stephen's reign, the Welsh, always ready for mischief, attacked the exposed monastery and pillaged it. The monks fled in dismay to Gloucester, which, finding a pleasanter place for comfort than among barren mountains, they got pious friends to aid them, and instead of returning to their mountain home founded a new monastery at Gloucester, which they also called Llantony, to save appearances, and some relics of which yet remain. After a time, however, they sent a prior and four monks to repossess the old place; and here, also, any members of the Gloucester fraternity who, for "irregularities" from the monastic rule deserved penance, were exiled to live on herbs, bread, and water. Mr. Lees humorously suggested that if some of the present company had been monks at Gloucester in those good old times, perhaps some little "irregularity" on their part might have caused them a pilgrimage to Llantony. The buildings here must have been renovated after the Welsh attack, but as the abbatial remains show a mixture of the Pointed and Norman styles, they are evidently of Transition date, and were, therefore, completed before the Norman style was entirely disused. The Abbey Church is cruciform, and though not of large dimensions, was admirably proportioned, its length from the western door to the eastern extremity being 212 ft., the breadth 50 ft., and the length of the transepts from north to south 100 ft. The structure is at present in a very ruinous state, but the nave shows a double row of elegant pointed arches resting upon massive piers that separate the side aisles, while above is a triforium of circular arcades. The roof has fallen in long ago, and the choir is entirely demolished, but two lofty arches still sustain a massive portion of the square central tower, that must have been once a noble object rising in this lonely valley. The transepts also remain, showing that they were lighted by narrow round-headed windows. The west end has a remarkable appearance, exhibiting the relics of two towers, which may have been constructed with a defensive view, as the monastery was so near the Welsh border. The southern tower has been utilised in connexion with a modern dwelling-house, and converted into bed-chambers very neatly fitted up, and tempting to a tourist to repose in after a tiring mountainous ramble or a day's angling in the adjacent clear and rapid river. Mr. Lees closed his paper by quoting Southey's descriptive lines intended to be inscribed on a monument in this mountain-environed vale of Ewias:—

"Here it was, stranger, that the patron saint
Of Cambria pass'd his age of penitence,
A solitary man; and here he made
His hermitage: the roots his food, his drink
Of Honddy's mountain stream. Perchance thy youth
Has read with eager wonder how the Knight
Of Wales, in Ormandile's enchanted bower,
Slept the long sleep; and if that in thy veins
Flows the pure blood of Britain, sure that blood
Has flow'd with quicker impulse at the tale
Of Dafydd's deeds, when through the press of war
His gallant comrades followed his green crest
To conquests. Stranger! Hatterel's mountain heights,
And this fair vale, Ewias, and the stream
Of Honddy to thine after-thoughts will rise
More grateful, thus associate with the name
Of Dafydd, the wild deeds of other days,
And desolate Llantony's ruin'd pile."

TECHNICAL EDUCATION AT THE CRYSTAL PALACE.

On Saturday last the summer term of the Crystal Palace School of Practical Engineering was closed by the presentation of certificates to the successful students in the south tower of the Palace, in which their workshops, drawing-office, and lecture-room are situated. Prior to the presentation of the certificates, the drawings and work of the students were examined by a large number of visitors. These were of the same character as those exhibited on former similar occasions, and have been already described in the *Builder*.

On Saturday last, an exception to the state of things indicated, and an interesting novelty, was presented by the students in the new Colonial section now in operation in connexion with the school. For ten days previously to the break-up the students had been "camping out" upon an island in the Geological Lake in the palace grounds, and had erected between the island and the bank of the lake, a very strong double lever spar-bridge, with a span of about 40 ft., and a planked roadway 9 ft. wide. The bridge and camp greatly interested a large number of visitors by whom they were inspected, among whom we noticed Mr. Edward Woods, member of Council of the Institution of Civil Engineers; Messrs. J. H. Tolme, C.E., and G. E. Gavey, C.E., F.G.S., students' examiners; Colonel Pasley, R.E., Admiralty Director of Works; Major Smart, R.E, Mr. R. Jacomb Hood, C.E., &c. The camp accommodation consisted of a conical tent for sleeping in, and a small marquee for victualling; the fire-place was provided by a hole in the earth, lined with a few bricks, on which the fire-bars rested, the draught being caused by a short chimney built with sods. The camp larder and beer-cellar was such as is not likely to be readily met with by colonists—the capacious and airy cavity in the image of a mastodon close by. In addition to the bridge itself the Colonial students had made a very good model of it on a scale of 1 in. to the foot. Although made of very slight materials, the model bore, without sustaining injury, the load of a 56 lb. weight upon the centre. Accompanying the model was a well-executed working drawing of the bridge, and a written description of the method of construction. These were, we believe, by the leading student in this section, Mr. Howard Newton, formerly an officer in the 1st Middlesex Engineers. The other work of the students in this section embraced some very good carpentry in dovetailing, mortising and tenoning, mitreing, &c.; also, a water-wheel, and a number of large-scale models of framed houses, with two rooms on each floor; area, 30 ft. by 20 ft., with a lean-to 12 ft. square. Bound doors, plain, and French windows glazed, are provided complete. The frame work is covered with weather boards. In addition to the work in the colonial section, some other novelties were presented in several very fair original designs for bridges of 15 ft. and 20 ft. span respectively, the span being all the information supplied to students.

During the last term there have been fifty-nine students in attendance, including eighteen in the civil engineering section. The number of students has increased continuously since the school was opened. Mr. Edward Woods presided at the meeting after inspection, and presented the certificates. Mr. Shenton, superintendent of the Science and Art School, read the examiners' report to the directors, which was of a highly satisfactory character. It appeared that thirty-four students had attended lectures during the term, that twenty-four of these had obtained a sufficient number of marks for lecture questions to be eligible for examination on "Railway and Dock Work." Of the twenty-four, certificates were awarded to twenty, each of whom had a certificate for drawing, or other work, the speciality of his term. A. B. Black was first, with 199 marks, out of a possible 232, with another certificate for work in the fitting-shop; A. T. Bean second, with 195 marks, and first for general surveying and preparation of plans for Parliament. The marks of the remaining eighteen students ranged from 178 to 101. In the drawing-office ten certificates were awarded,—A. Jones, first; G. S. Firth and H. Wollaston, equal seconds. In the pattern-shop and foundry ten certificates,—S. R. Locock and H. V. R. Read, equal firsts. In the fitting-shop, twelve certificates,—E. R. Royston, first; L. Wilson, second. In the civil engineering section, first term, eleven certificates for general surveying, &c.,—A. T. Bean, already mentioned, first; F. S. Richardson, second; second term, for calculation of strains and the preparation of general and working plans, specifications, and estimates of a railway and dock, seven certificates,—H. E. Read and H. S. Vogan, equal firsts.

THE MARGATE AQUARIUM SKATING RINK.

The skating-rink at Margate, in connexion with the aquarium and concert-hall about to be erected at this popular watering-place, has been formally opened with much ceremony in the presence of the mayor and corporation, and a large number of spectators. The site of the rink is at the Fort-green point of the land reclaimed by means of the sea wall. It is partly open and partly covered in, and the entire area contains 25,000 feet. The portion under cover is about 180 ft. long by 60 ft. wide. The floor is constructed of the Wouldham Company's Portland cement, and in order to prevent any unpleasant dust odour arising, the floor is to be flooded every night, and the water to be let off again early in the morning, ready for skaters during the day. It is stated that by this means an even and hard floor will be maintained, and that the more it is worn the more highly polished the surface will become, the powdering of the cement and the consequent clogging of the skate-wheels being obviated by the flooding process. At one end is the orchestra, and at the other end refreshment and dining rooms. On the north side of the covered portion of the rink is a lounge for the accommodation of spectators. The rink has been constructed from the designs and under the superintendence of Mr. A. Bedborough, who is also the architect for the aquarium buildings, which it is expected will be completed and ready for opening in about twelve months.

THE MIDLAND RAILWAY COMPANY'S NEW SHIPPING DEPÔT AT BLACKWALL

CONSTRUCTION OF WHARFS AND WAREHOUSES.

The Midland Railway Company are about to construct extensive new works on the banks of the Thames at Blackwall, for the purpose of carrying on the export and import shipping trade in connexion with their ordinary railway traffic between the districts of Lancashire and Yorkshire and the metropolis. For this purpose they have just purchased one of the large ship-building yards at Blackwall, on which they intend to form a shipping dock and river outlet, together with the construction of other works and buildings for carrying on this new branch of marine traffic. The shipbuilding premises which they have purchased nearly adjoin those of Messrs. Wigram & Co., and are upwards of seven acres in extent. The last vessel built there was launched some weeks ago, and within the last few days the company have obtained possession of the property, which is immediately to be converted for its future intended use. The works which the company are about to execute include, in addition to a water area and river outlet, a new river wall, with wharfs for loading and unloading purposes, and the storage of merchandise, together with sheds and warehouses. Several lines of rails will also be laid down in connexion with the company's main line, which will admit of the railway wagons coming direct alongside the vessels within the depôt for the purpose of loading and discharging goods. The company intend to obtain access to the river and depôt by the construction of branch lines from the Midland Company's main lines to form a junction with the North London Company's railway, and thence with the Blackwall line.

THE TOWN-HALL, BIRMINGHAM.

Extensive alterations and decorative works have been carried out at the Birmingham Town-hall, in view of the forthcoming musical festival. In the basement adequate cloak-room provision has been provided for both ladies and gentlemen, and to effect this object two additional flights of steps have been constructed,—one on the right hand and the other on the left. The partitions which form the cloak-rooms can all be removed, so as to leave the basement clear for other purposes should it be required. The approaches to the orchestra, especially that at the Ratcliff-place side, used on the occasion of concerts by the principal performers, have been widened, and for singers waiting a "turn" or *encore* a small additional green-room has been provided. The staircase leading to the upper seats of the orchestra has been widened. With regard to the lighting of the hall a great improvement has been effected. The old gas-pipes, which have been in use since the building of the Town-hall, have been removed, and a new service laid. An extra special service can also be laid on when occasion requires. The three chandeliers which depend from the ceiling have been lowered 18 in., and gilt brackets have been affixed to the walls. It has also been sought to improve the ventilation of the hall. The work of decoration was not entrusted to a professed decorator, but the designs were drawn by Messrs. Martin & Chamberlain, architects, and, under their superintendence, carried out by Mr. Seers, of Broad-street.

Regardless of the voices of the singers, the pitch of the organ in the Town-hall has (according to the *Birmingham Gazette*) been sharpened three times since it was built, to suit the continual raising of the pitch of the instruments in the orchestra. The remonstrances of the great vocalists have, however, at last had the effect of bringing about a much-desired change.

The instruments and the organ will, at the forthcoming festival, be at a uniformly lower pitch than on previous occasions. Sharpening the pitch of the organ was a somewhat simple operation, as the pipes had only to be cut shorter, but, to lower it, nearly all the principal pipes had to be lengthened, each metal pipe having a tube of the same calibre and quality soldered on its top. All pipes under 1 ft. in length were transposed by introducing a new pipe of 1 ft. in length, and by taking away the top note. The number of metal pipes alone thus pieced is 1,349. There are also new centres to levers of manual actions, the brass wire having decayed. The 32-ft. diapasons and trombone are completed to the top of the register. Messrs. Hill, of London, the builders of this magnificent organ, presented Mr. Bossward with the pipes, &c., for this part, in order to ensure the same quality of tone throughout.

THE NEW COUNTY ASSIZE COURTS, NOTTINGHAM.

The new County Assize Courts at Nottingham, to which we made a brief reference recently (p. 746, *ante*), have been completed and opened. As to the Criminal Court, we learn that it was laid down by the Visiting Justices as a governing principle that, whilst every consideration was due to the public, yet that the court was erected for business purposes, and therefore the convenience of the executive was the chief consideration, and this idea has been throughout insisted upon by the Visiting Justices. Acting upon it, a table of adequate dimensions occupies the centre of the court: on one side of it are seats for the leading counsel, with rising tiers of seats for the juniors, whilst immediately behind the leaders, and between them and the juniors, is a sunk seat for solicitors, who will thus be enabled to be in direct communication each with his own counsel. On the other side of the table immediately opposite to the counsel is placed the jury-box, and next to that is a box expressly appropriated to reporters. At the end of the table is a raised and spacious bench for the judge, with his officers conveniently near him, whilst close to the judge, and between him and the jury-box, is the witness-box. At the other end of the table, immediately opposite the judge, is placed the prisoners' dock, in full view of all concerned; and the combined effect of these arrangements is that nothing intervenes between any one person and another engaged in the matter before the court. The judge, counsel, jury, witness, prisoner, and reporters are brought into full view of, and, as it were, face to face with each other, with no obstruction between any of them. The grand-jury gallery opens direct from the grand-jury room, and affords easy communication with the judge's bench. The sheriff's gallery, for the public, is opposite the grand-jury gallery, and at the west end of the court is a gallery for the jurors in waiting, whilst in the front, but on a low level, are spaces for the witnesses in waiting and the general public. The heating and ventilation have been carried out by Messrs. Haden & Co., of Trowbridge.

The work was originally begun by Mr. George Johnson, but he having relinquished his contract, the works have been completed by Messrs. Fish & Son. Mr. Sanders is the architect, Mr. Tate having acted as clerk of the works.

WALLASEY FREE GRAMMAR SCHOOLS.

These schools, from the designs of Mr. T. Mellard Reade, C.E., architect to the Liverpool School Board, have just been completed, and were opened on Monday, the 7th inst. The plans were chosen in a limited competition out of eight sets, and the building is considered to be very suitable for the purpose of a middle-class grammar school.

The portion now built contains accommodation for 200 boys, divided into 100 seniors and 100 juniors, with two school-rooms and three class-rooms. The entrances, which are from the play-grounds, are porches containing lavatories and cloak-rooms. The two schoolrooms can be thrown together by sliding screens, and they then form a very fine room for public meetings, lectures, &c.

The plan is arranged so that when the buildings are completed accommodation will be obtained for 400 scholars, with master's room and physical laboratory in addition to six class-rooms. The whole of the walls are of local sandstone, and the joiners' work of pitch pine. The style is an adaptation of Early Gothic. All the work has been satisfactorily executed by Mr. James Ridehalgh, of Liscard, the sole contractor.

CORNWALL CONGRESS OF THE BRITISH ARCHÆOLOGICAL ASSOCIATION.

The papers promised are very numerous, and have due reference to the locality. Our readers may judge for themselves, for here is a list of them:—

Thomas Morgan, F.S.A., "On the Fleets of the Ancients in Cornish Waters."
E. P. Loftus Brock, F.S.A., "On Cotehele House and its Architecture, St. Neot's and Temple Churches," &c.
Rev. Dr. Margoliouth, "The Pros and Cons. on the Etymology of certain Words in the now obsolete Cornish Language."
J. R. Planché (*Somerset Herald*), "On the Earls of Cornwall."
W. de Gray Birch, F.R.S.L., "On the Local MSS."
S. I. Tucker (*Rouge Croix*), "The Duchy and Dukes of Cornwall."
George R. Wright, F.S.A., "On Legends connected with some Cornish Families."
J. T. Burgess, F.S.A., "On the Tribal Arrangements of the Gaels and Celts."
Henry Jenner, "On the Ancient Cornish Language."
Rev. W. S. Lach Szyrma, M.A., "On the Spanish Descent upon Newlyn"; "On the History of the Land's End"; and "On the Sennen and St. Just Churches."
Rev. W. Jago, B.A., Local Secretary for Cornwall, Society of Antiquaries, "On the Antiquities of Bodmin," and "On the Crosses of Cornwall."
T. Q. Couch, F.S.A., "On the History of Restormel Castle," and "On the Holy Wells of Cornwall."
Rev. Prebendary Kinsman, M.A., "On Tintagel Church and Castle."
Rev. Prebendary Scarth, M.A., "On the Roman Roads of Cornwall."
Rev. J. J. Wilkinson, M.A., "On Launceston Castle."
J. S. Phené, LL.D., "On the *Κάρνυξ*, or Horn of the Keltic People, and its various Applications." "On the Dragon of Cornwall."
Rev. S. M. Mayhew, M.A., Jottings on Cornwall."
Rev. William C. Lukis, M.A., "On the Cornish Megaliths."
C. Lynam, "On the Churchyard Crosses of Staffordshire."
R. N. Worth, "On the Ancient Boroughs of Cornwall, with Notes on their Arms and Devices."
Thomas Cragoe, F.R.G.S., "On King Arthur and the Knights of the Round Table."
Thomas Kerslake, "On the Early Saints of Cornwall."
H. Sewell Stokes, Hon. Local Secretary, "A short Account of Cornish Histories and Books on the County."
J. Noye, "Curiosities of Modern Cornish Speech."

ESSEX ARCHÆOLOGICAL SOCIETY.

The annual general meeting of this Society was held on the 1st inst., at Colchester, in conjunction with the visit of the Royal Archæological Institute, and was of a purely formal character.

The report of the Council points to:—

"The continued prosperity of the Institution, which now numbers (including thirteen corresponding associates) about 230 members, showing (notwithstanding some inevitable yearly losses), an increase of more than fifty during the last four years.

The financial statement to the 30th of June shows a balance of 207*l.* 3*s.* 3*d.* in favour of the Society. Bills more recently discharged have reduced this to 172*l.* 6*s.* 8*d.*, which, with two years' interest on 100*l.* stock, invested on account of life compositions, and since received, will remain to meet the cost of publication and other expenses of the current year.

The Council regret that the appeal made for aid to enable them to publish, partly by subscription (not limited to members of the Society), illustrations of the remarkable series of mural paintings discovered at Copford, has not met with the success which they had so confidently anticipated. Only 11*l.* 0*s.* 6*d.* have been actually received, but subscriptions to about twice that amount have been promised, a sum, however, wholly inadequate to permit the work to be proceeded with."

The secretary (Mr. H. W. King) and other officers were re-elected, and Sir Thos. Western, bart., of Felix Hall, was unanimously chosen as president for the ensuing year.

Several new members were elected.

COMPETITIONS.

New Cemetery, Tyldesley.—At a meeting of the Burial Board, held on the 26th ult., the competitive designs for cemetery chapels, lodge, &c., were again under consideration, and were then reduced to three in number, viz., those submitted by "Ecce," "Beta," and "As you like it," the latter being ultimately awarded the first premium of 50*l.* The successful design was submitted by R. Knill Freeman, architect, of Bolton-le-Moors.

New Schools at Tuxford.—At the monthly meeting of the Tuxford School Board, on the 4th inst., the design for the intended new school buildings and master's house, submitted in competition by Messrs. Innocent & Brown, of Sheffield, was unanimously adopted, and the authors were instructed to prepare working drawings and specifications for submission to the Education Department.

SURVEYORSHIP ITEMS.

Lavenham.—Mr. Jackson, surveyor of the Lavenham Highway Board, died very suddenly a few days ago.

Richmond.—At a meeting of the Richmond Select Vestry on the 25th ult., the highway committee recommended that a surveyor be appointed at a salary of 200 guineas per annum, and that Mr. Brewer be offered the appointment for one year. Mr. Maxwell proposed the adoption of the report, but on the suggestion of Mr. Dermer, J.P., the motion was deferred until the next meeting, by which time it was stated the duties of the surveyor would be properly defined.

Luton.—Mr. W. H. Leet, of Luton, has been unanimously elected surveyor to the Town Council and Sanitary Authority of Luton. There were three applicants for the office.

Derby.—At a meeting of the Derby Town Council on the 17th ult. the resignation of the borough surveyor (Mr. Ellice-Clark, who, as already announced in the *Builder*, has been elected surveyor to the Hove Commissioners) was accepted. An attempt was made by a section of the Council to reduce the salary of Mr. Ellice-Clark's successor to 400*l.*, but a large majority of the members refused to stultify themselves by such a procedure in view of the certain increase in the responsibilities and duties of the post by reason of the rapid growth of the town. In the course of the discussion Mr. Clark's ability, energy, and business aptitude were testified to, but it was questioned whether he could be allowed to resign then, seeing that his appointment only dated from September 29th last. Mr. Stenson contended that it was an annual appointment, made for twelve months, and that if a gentleman engaged to serve them for twelve months at a fixed salary, he ought, on public grounds, to be kept to his engagement. An amendment to the effect that Mr. Clark should be compelled to retain his office until the twelve months had expired fell through for want of a seconder.

MASTERS AND MEN.

Bath.—On the 20th ult. the masons employed at the Great Western Goods Station, Lower Bristol-road, Bath, struck work on account of having been required to fix stone which had been prepared away from the work. During the day, however, this matter and others in dispute were considered, and an understanding arrived at, which resulted in the men recommencing work.

Gateshead.—After a struggle of thirteen weeks, the operatives having failed to gain the advance sought for, they have agreed to resume work, and the employers have opened their shops, subject to a set of working rules to be settled hereafter.

Nairn.—A portion of the Nairn operative masons came out on strike on the 18th ult., with the object of compelling the employers to pay them at the respective works on every alternate Saturday ere they cease work; in other words, to receive payment of wages in the masters' own time, and not oblige the operatives to call at the respective offices. The point has been yielded.

Mold.—The proprietors of the Mold Tin-plate Works having recently suspended payment, the large body of workmen have met, and have, it is stated, decided to show their sympathy with their employers in a practical form, by pledging themselves to work one week in every month until Christmas, for the benefit of their employers, without expecting any return in wages. Such consideration for employers is not too common amongst workmen.

Greenock.—Last week the operative masons in the employment of several firms were locked out in consequence of a dispute about "brick-work."

Glasgow.—On the 24th ult. a meeting of the operative joiners on strike was held, when it was stated that the men were prepared to fight the battle with the employers for eight weeks yet, by which time it was alleged that several of the masters as such would cease to exist.——The master wrights of Glasgow held their usual weekly meeting on the 27th ult. Mr. James Henderson, of Kinning Park Saw Mills, in the chair. Reports from the districts were submitted, showing that in the five districts there were 893 men working on the masters' terms, 757 working on their own terms, and 2,163 still on strike. The chairman stated that the returns were highly satisfactory, and that the number of

operatives working on the masters' terms was daily on the increase.

Manchester.—The Manchester Plasterers' Labourers' Strike Committee on the 22nd ult. declared the strike closed. All the men are now employed at the rate of wages claimed, viz., 28s. per week. The strike has lasted sixteen weeks, and fifty firms have granted the concession claimed.

Bristol.—A mass meeting of the builders' labourers of Bristol was held on the 20th ult., to consider the steps to be taken in regard to the approaching expiration of their notice to the employers for an advance of three farthings per hour to their present rate of wages. The following resolution was unanimously carried:—"That the general secretary at once write to the masters' association, respectfully requesting them to send by their secretary, at their very earliest convenience, a direct and explicit answer of their intentions on the first Monday in August.

Canada.—A novel case has arisen in Canada, under the laws regulating trade unions. A stone-cutter in Montreal, who did not belong to the Stone-cutters' Union, accepted work from a firm employing union hands, but at less rates than the union exacted. The trade unionists then, by threatening a strike, compelled his discharge. The stone-cutter has now sued the trade union, which is a regularly incorporated body, for actual and prospective losses caused by its action, and has laid his damages at 200*l*. He has engaged eminent counsel, and expects to pursue the suit vigorously.

Southport.—On the 24th ult., at the Southport Petty Sessions, a joiner, named Thomas Jones, who is out on strike, was charged with intimidating and assaulting another joiner, named Thomas M'Govan. For some time past the joiners of Southport have been on strike, and fresh men have been brought to the town by the masters, the complainant in the case being one of them. On the 15th ult., the union "picket" had been watching the complainant for about an hour, after which time the men accosted him in Chapel-street, when high words and blows followed, M'Govan having told him that he was determined to remain with his employers, Messrs. Wishart & Irving. The defendant was fined 10*l*. and costs. Notice of appeal was given.

Willenhall.—After the rim and mortise lock-makers of Willenhall were out on strike three weeks for an advance of 10 per cent. on their wages, the masters consented to refer the dispute to the arbitration of the Rev. G. H. Fisher, the vicar of the parish. He awarded the men 7½ per cent. On the 26th ult. the customers of the employers affected by this award received circulars announcing that the employers, believing they had a good case, consented to refer the matter to arbitration; but, to their surprise, the umpire has awarded the men 7½ per cent. advance, to take place at once. Much against their wish, they (the employers) are compelled to advance their goods 5 per cent., including orders now unexecuted.

THE WELSH SLATE TRADE.

PRICES DURING THE PAST TEN YEARS.

A CORRESPONDENT of the *Mining Journal* gives the following table, showing the prices of slates, first quality, per thousand, of the sizes most in request, and for a period of ten years. The prices are determined by the leading quarry proprietors or their agents at the commencement of each year. Progressive prices, he says, indicate, of course, corresponding demands, and the slate-producing areas being practically limited it is difficult to foresee any diminution in the present demand, or that any equivalent will be adopted combining the lightness, durability, and inexpensiveness of the Welsh roofing slate. Slate quarrying, from its nature, may be suspended without any pecuniary loss, and is, consequently, freer from the serious disadvantages of strikes or trade combinations than perhaps any other branch of British industry:—

PRICE PER THOUSAND (FIRST QUALITY).

NAME.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.
	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s. d.	£ s. d.	£ s. d.
Princesses (24 in. by 14 in.)	11 0	11 0	11 0	11 0	11 0	11 5	11 5	11 5 0	12 5 0	13 10 0
Duchesses (24 in. by 12 in.)	9 10	9 10	9 10	9 8	9 8	9 8	9 10	9 12 6	10 5 0	11 10 0
Lg. Countesses (20 in. by 10 in.)	6 10	6 15	6 15	6 15	6 15	6 15	6 15	6 10 0	6 10 0	7 15 0
Viscountesses (18 in. by 10 in.)	5 5	5 5	5 5	5 5	5 5	5 5	5 5	5 5 0	5 10 6	6 7 6
Viscountesses (18 in. by 9 in.)	4 0	4 0	4 0	4 3	4 3	4 3	4 3	4 8 0	4 15 0	5 10 0
Short Ladies (14 in. by 8 in.)	2 5	2 5	2 5	2 2	2 2	2 3	2 3	2 5 0	2 12 6	3 0 0

THE CARLISLE STATION EXTENSION WORKS.

ANOTHER section of Messrs. Ward & Co.'s great undertaking in connexion with the Citadel Station Extension Scheme was completed last week, when Mr. C. P. Hardy set the keystone of the arches of the new Nelson Bridge. The first stone was laid on the 22nd of June, and within a month the three arches, comprising some 76,930 cubic feet of ashlar and masonry, have been successfully completed. The arches are semicircular in shape, each having a span of 36 ft., and a rise of 18 ft., while the weight of stone used represents something like 5,150 tons. Mr. Hemberow is engineer for the contractors, and Mr. Martin foreman of the masonry branch of the work. In the keystone was a small crevice, in which was deposited a bottle containing a few ears of wheat and oats, a copy of a local paper, and a document, on which was written the following:—

"The old Nelson Bridge was built by subscription. The foundation-stone was laid by the then Mayor (Thomas Nelson, esq.), on the 25th of June, 1852, and it was completed and opened in the following year. The new structure was designed by Messrs. Blyth & Cunningham, civil engineers, Edinburgh; it was erected by Messrs. Robert Ward & Co., contractors, of Glasgow, at the cost of the Citadel Joint Station Committee. The new bridge was commenced on the 22nd of June, 1876, and the keystone of the last arch was set by C. P. Hardy, Esq., on the 22nd July, 1876."

Mr. Hardy congratulated Messrs. Ward & Co. on the auspicious termination of this important part of the work. As many of them would perhaps be aware, it was now something less than two years since he was honoured by being called upon to cut the first sod in connexion with the railway extension scheme, and such had been the intelligence and energy brought to bear upon the work since that time, that the progress made seemed almost incredible,—a state of things which redounded to the credit of the contractors and the staff in their employ.

NEW PUBLIC BATHS.

Dundee.—A large first-class swimming-bath has been opened at Dundee by the baths committee of the Town Council. The cost, with other baths completed or in progress, has been upwards of 5,500*l*. The bath just opened is 68 ft. by 30 ft. There are two other baths, 54 ft. by 28 ft. and 56 ft. by 28 ft. respectively. The plans were prepared by the city surveyor.

Hertford.—A new swimming-bath has been opened at Hertford. The contractors were Mr. Potter (London) and Mr. Green (Stanstead).

Chatham.—The question of providing public baths for the inhabitants of Chatham and Rochester, which has been before the public for a number of years past, would appear to have entered on another phase, the trustees of Watts's Charity, who, under the scheme settled by the Court of Chancery, was the body charged with providing the baths, having decided at their last meeting to relegate the powers they possess to the Corporation of Rochester, the trustees handing over to the latter body the sum of 2,000*l*., which they were authorised by their scheme to expend in providing baths, and paying the corporation a further sum of 200*l*. annually for maintaining the baths. The portion of the scheme for providing washhouses will not be carried out, the arrangements being for baths alone.

Wednesbury.—The Wednesbury Local Board propose to borrow 2,000*l*., for the erection of new public baths, in conjunction with which will be a free library, proposed to be provided at an additional cost of 1,000*l*.

Chester.—A company was formed last year for the purpose of providing a large floating bath on the Dee, with thorough swimming and private bathing accommodation. The Duke of Westminster headed the share list, and warmly commended the scheme. The second annual general meeting of the shareholders has been held. The directors' report stated that they were now in a position to commence the work. They had abandoned the old design, and now submitted one by Mr. Rae M'Kaig, of Liverpool, which provides for a swimming-bath only, 70 ft. by 30 ft. wide. This modification of the original scheme, it was explained, was due to the unwillingness of the public to come forward with the necessary capital. The secretary stated that 467 shares had been taken up, amounting to 2,335*l*., and that the estimated cost of the bath was 1,950*l*., and incidentals, 350*l*.

Scarborough.—The new baths which are being erected by the South Cliff Bath Company in Ramsdale-road, are now nearly completed. The Turkish bath is a very important feature in the arrangements. The architect is Mr. John Petch.

Rotherham.—For many years a great want has been felt by the working classes residing in the Chapeltown district of a suitable place in which to bathe. This difficulty is now removed through the enterprise of Mr. Thomas Ogden, who has opened a new bathing saloon at Charlton brook. The water is conducted in pipes from the centre of the Charlton dam. The baths will be known as the "Victoria Baths."

Doncaster.—A new swimming-bath has been opened near the Marsbgate railway crossing, Doncaster. The bath proper is 90 ft. long by 40 ft. wide. Its depth ranges from 3 ft. to 7 ft., the bottom being covered with hard smooth cement. At the east, west, and south sides is a pavement formed of cement, 12 ft. wide, and adjoining the wall on the south side has been erected a bench or form for bathers to sit on. On the northern side of the bath there is a pavement 6 ft. wide, the remainder of the space being taken up by a row of dressing-boxes, twenty-seven in number.

MINTON'S TILES.

HOLLINS *v.* CAMPBELL.

THIS case came before Vice-Chancellor Malins on the 31st ult., when

Mr. Glasse, Q.C., moved, on behalf of the plaintiff, Mr. Michael Daintree Minton Hollins, to restrain the defendants, Mr. Colin Minton Campbell, M.P. for North Staffordshire, and Robert Minton Taylor, formerly partners in the firm of Minton Hollins & Co., at Stoke-upon-Trent, from carrying on any part of the business or manufacture of encaustic tiles or tiles used for flooring or pavements at No. 27, Walbrook, London, so long as any part of the business of Minton & Company should be carried on there under the name of "Minton," or that name should be affixed to the house or circulars, and business letters should be issued from that address under that style, and to restrain them from using the information relating to the tile business which might be contained in any letter addressed to Messrs. Minton & Company, Stoke-upon-Trent, and which might come to their hands.

After hearing Mr. Cotton, Q.C., for the defendants,

The Vice-Chancellor said that on a very full argument of the case, the defendants, Campbell and Taylor, had already been restrained from using the name of "Minton" as connected with flooring tiles. On the dissolution of the partnership between them it had been agreed that Mr. Campbell should have the exclusive use of the name in connexion with the "china" trade, and Mr. Hollins the same user in connexion with the "tile" business. Since the order in May, 1875, letters had been addressed to the firm of "Minton & Co.," at Stoke, in reference to flooring tiles, and it seemed that those letters, instead of being at once forwarded to Minton Hollins & Co. (which was, perhaps, what the plaintiff could not insist upon), the plaintiff complained that they were returned to the writers with this intimation,—"We do not make flooring tiles, but when we want them we apply to Campbell's Brick and Tile Company." Those letters were written by a firm of which Mr. Campbell was the senior partner, two gentlemen of the name of Minton being associated with him, and the question before the Court was whether that was a proper course to adopt. His lordship was decidedly of opinion that it was not a proper course, but would not then say anything more, not having before him the firm of Minton & Co., by whose authority the letters complained of were written. It seemed strange that a gentleman who was member for the county in which the works were situated should not have disdained such devices of trade. There would be leave given to amend the bill, and the motion would stand over to the second motion day in Michaelmas sittings, to be treated as the hearing of the cause.

PLASTERERS AND OVERTIME.

THREE journeymen plasterers,—Shaw, Harland, and another,—were summoned by their employer, a contractor for plastering work, for damages alleged to be sustained by reason of their not fulfilling their contract.

Mr. Murray, the plaintiff, said that on June 30 he went to Newcastle to look for some plasterers, and engaged the three defendants at a wage of 1*l*. 19s. per week, and overtime if convenient. The contract was to last for six weeks, and the men were also to have their fares paid to their place of work, and all three started work.

A week afterwards they asked to be put on overtime, when witness told them if they got it his other men would want to be placed on the same footing, and he could not give overtime at all. Next week they again applied for overtime, and on being refused, all three left work at once. In consequence of this, witness had suffered damage, caused by having to pay labourers. One labourer served two plasterers, and when the defendants left so summarily, witness had to pay labourers for doing prac-

tically nothing. He had lost 3*l.* by each, and 3*s.* 3½*d.* for each railway fare.

The defendants urged never being engaged for six weeks, as it would have been against the Union rules. The plaintiff, they said, had promised to let them work as much overtime as they liked, and finding they could not get overtime, they gave the usual one hour's notice, and left work.

The magistrates adjudged the two first men to pay 2*l.* 3*s.* 3½*d.* damages, and costs each, and the third man had left the town.

ST. JOHN'S GATE.

Sir,—My attention has just been called to a statement in your reporter's *resumé* of my paper on St. John's Priory, Clerkenwell, before the Architectural Association. It is said there, in your issue of July 1st, that Sir Edmund Lechmere, bart., M.P., who has bought the gatehouse, has fitted up one of the upper rooms as "a chapel." As this is not the case, and as such a report did not certainly originate from me, perhaps you will kindly insert this contradiction. George H. Birch.

FAC-SIMILE OF THE BAYEUX TAPESTRY.

Sir,—Some time ago, having just read Freeman's "History of the Norman Conquest," I became very desirous of seeing a *fac-simile* of the Bayeux tapestry. Finding that one had recently been exhibited at the Albert Hall, I went there, but ascertained that it had been returned to the South Kensington Museum. I inquired at the Museum of every person I came across who seemed to possess any authority there, but could not obtain any information about it. The prevailing opinion was that it had been lent to some provincial exhibition. I was therefore compelled to give up my search in that direction. I had no idea, nor had any of those of whom I inquired, that it was covered with other drawings, as "Ghost" tells us is the case. I may add that I think it an admirable suggestion of his that a *fac-simile* should be brought out by the Art-Union of London. A Reader.

"FAIR MEASURE."

Sir,—In your impression of the 15th ult. a correspondent (Mr. J. Robson) has deemed it necessary to caution builders against the "sacking" propensities of lime merchants. As a member of an establishment which supplies the article in question to most of the extensive works of the metropolis, I trust you will do me the favour of allowing me to make one or two observations on Mr. Robson's letter.

In the first place, permit me to say that it is not the practice of my firm to send out for a yard of lime seven sacks measuring 3 ft. 6 in. by 44 in. in girth, nor has it ever been so, and I should gravely question whether such a practice can be otherwise than most exceptional. For years past the measurement of our sacks has been 35 in. in length by 44 in. in girth, *ten* of which well filled are delivered to the yard, and I can prove to demonstration (for the lime always rises a good deal above the mouth of the sacks) that if fairness be observed in the measurement there is no deficiency.

But Mr. Robson seems to question whether the use of sacks is for the convenience of the builder. Had he known, or had he borne in mind, that the value of the sacks per yard approaches very nearly to the value of the lime itself; that the use of sacks is not paid for; that builders' labourers commonly appropriate them to their own purposes, chiefly for backing hats; that numbers are lost for which the merchants can never be reimbursed; and that it takes double the labour to load a cart with lime in sacks as compared with that which is required without them,—he could hardly have conveyed the implication that sacks are used for the merchant's advantage.

There is, however, one passage in Mr. Robson's letter which leads me to make a remark in the interest of the smalle dealer. He says:—"It is quite certain there is no reason why 27 cubic feet should not be served to the yard." Legally speaking, he is right. But Mr. Robson seems to imagine that a yard of lime can be certified under all circumstances, with as much accuracy as a ton of coals or a bushel of potatoes. This is not the fact. Let me tell him for his information that a yard of lime in the merchant's shed is not a yard of lime in the builder's yard. Moreover, I can assure him that a yard of lime, such as no one could legally question, at the burner's works would not generally weigh more than 8½ cwt.; that a yard taken directly out of a barge would weigh over 9 cwt.; and one taken out of the merchant's shed would weigh about 10 cwt., the difference being accounted for by the broken pieces, &c., filling up all the interstices. For a practical illustration of this I would ask Mr. Robson to conceive of a cubic yard of cannon balls. When he has weighed it, let him fill up all the vacant spaces with small shot, and though he will then have no more than a cubic yard of spherical metal, he will obviously have a denser and more valuable measurement.

In making these remarks, I offer no apology for dishonesty; on the contrary, I would encourage builders, in common with all other buyers, to be on their guard against sharp practice. But I think I have said enough to show that lime measurement is somewhat exceptional; that the harsh application of the legal maxim, *caveat emptor*, cannot here be so rigorously pressed as if weight were the standard; and that the use of sacks, so far from being an advantage to the merchant, is, as a rule, regarded by him as a nuisance, to be avoided wherever it is possible. A. Dale.

PLATE CLOSETS.

Sir,—Having erected a fire-proof plate-closet, I shall be glad for some advice from your many practical readers as to what the shelves should be made of. I think terra-cotta or fire-clay, if the lengths could be obtained, would be best.

Eboracum.

THE DERBY CENTRAL SCHOOL OF ART.

On the 1st inst. the Baroness Burdett-Coutts laid the foundation-stone of the new buildings about to be erected on Green-hill for the purposes of the Derby Central School of Art. The central building will consist of two wings, having an open court-yard between them, so arranged as to obtain a north light for all the drawing-rooms. The wings are united at the east and west ends by corridors connected with all necessary offices, staircases, and entrances. The whole of the elementary schools devoted to the teaching of the younger students are on the ground-floor, so that the more advanced pupils only need have access to the first floor. The several rooms are planned with a view to keep the sexes as distinct as possible, all rooms for the sole use of the ladies being in the front of the building, and near their entrance. The rooms used in common are accessible from both ends by separate doors, and those on the first-floor by separate staircases also. Only the wing on the north side is to be at present built, the plan being so arranged that the buildings may be erected in sections without impairing the usefulness of any portion. The ground-floor consists of a porch and entrance-hall in the centre of the building, facing Green-hill, opening on the front corridors, but shut off therefrom by means of an inner glass screen. Communicating with the front corridor on the north of the entrance are the principal stairs, ladies' elementary room, and a passage to the machine drawing-room and back corridor. On the south side of the entrance are the secretary's room, store-room, elementary room, and cottage for curator, this latter being so placed that the curator may have easy access to the front door and all other parts of the building.

The construction of the roof of the Antique and Painting Rooms is peculiar, and especially adapted for the admission of uninterrupted light, as it partakes of one great curve from the height of the sills of the windows to the apex of the roof, the roof of these rooms and the windows therein being carried on curved iron principals, to allow of this form of construction being adopted; the result is, that in these windows all the advantages of the ordinary skylight and perpendicular side light are obtained, without the great disadvantage of the block caused by the wall-plate at the juncture of the two. This form of construction has also been adopted by Messrs. Waller & Son, the architects, in the School of Art at Gloucester, and has, it is said, been found to answer extremely well, and to be of great practical benefit to the schools.

The fronts towards Green-hill and Degge-street will be of stone.

The cost of the present section, with land, architects' charges, &c., will be at least 7,000*l.* Messrs. J. & E. Wood, of Derby, are the contractors for the work.

Scientific Museum at South Kensington. Mrs. Griesbach has presented to the Lord President of the Council, for the proposed Scientific Museum, a valuable collection of acoustical apparatus, invented and made by her late husband, John Henry Griesbach. This apparatus is now exhibited in the loan collection of scientific apparatus.

UNHEALTHY DWELLINGS AT JARROW.

At the Jarrow County Petty Sessions, on the 11th ult., a case in which Mr. Drewett was summoned for being the owner of the houses, Nos. 1, 2, 3, 4, and 5, Bensham-square, and Nos. 27 and 29, Dog Bank-row, Jarrow, which were alleged to be unfit for human habitation, and a nuisance injurious to health, was heard before Messrs. J. B. Dale and A. Leslie, and the case was at this time adjourned. The decision of the Court was subsequently delivered at the South Shields Petty Sessions. The decision was as follows:—

"After giving the evidence in this matter our careful consideration, and, at the request of both parties, personally inspecting the premises, we have come clearly to the conclusion that they are—both from the dampness of the walls in the lower rooms, and the want of air ventilation in the upper rooms—in such a state as to be a nuisance, and injurious to the health of the parties residing therein. Except for the observations of the Lord Chief Justice and Mr. Justice Hannen, in giving judgment in the case of the Great Western Railway Company *v.* Bishop, we should have doubted whether sub-section 91 of the Public Health Act, 1875, did not require, in order to give us jurisdiction, that there should be a nuisance injurious to public health, or, at all events, to some member of the public other than the occupier; but the judges there point out that injury to the health of some person is sufficient. We, therefore, order that the nuisance should be abated within fourteen days; and further, the nuisance being such as to render the houses and buildings, in our judgment, unfit for human habitation, we prohibit the using thereof for that purpose until they are rendered fit, and we order the defendant to pay the cost of these proceedings."

Mr. H. E. Duncan, who represented the defendant, gave notice of appeal.

DISPUTED ARCHITECTS' CHARGES.

HADFIELD AND SON *v.* GAINSFORD.

This case, which we reported at the time, was part heard at the County Court, on the 28th of June last, and was down for further hearing on the 9th (Wednesday). Messrs. Hadfield & Son, however, having been informed that the defendant had paid into court the amount of their claim, and the full costs of the suit, requested their solicitor to stay further proceedings.

CHURCH-BUILDING NEWS.

Colliston.—The chapel-of-ease to the parish church of St. Vigean, Colliston, built only a few years ago, from designs by Messrs. M'Laren & Aitkin, architects, Dundee, is being enlarged, under the direction of the same architects. The original building, which seated 250 persons, was oblong, about 50 ft. by 28 ft. The east gable was removed, and a new building of about the same dimensions as the present is in course of erection across in the transept form. This will seat another 250, or thereabouts. At the same time, taking advantage of a natural declivity at the east end, a vestry and other offices have been provided under the transept. A portion of the new plan consisted in raising the walls of the present church fully 3 ft. As this involved, under ordinary circumstances, the removal of the roof, which was as good as new, the idea was caught of lifting it bodily, and building the additional height under it. This idea has been successfully carried out, under the management of Mr. Scott, builder, and Mr. Welsh, joiner, the contractors.

Airdrie.—A new church at the village of Greengairs, Airdrie, has been formally opened for public worship. The building is in the Norse Gothic style, from plans by Mr. Alexander M'Gregor Mitchell, architect, Coatbridge. It is well lighted, comfortably seated, and will accommodate about 400 worshippers.

Birtsmorton.—Efforts are being made to restore the ancient and historically-interesting church of Birtsmorton, which stands at the south end of the Malvern Hills. The edifice, we are told, imperatively demands restoration, and fully 1,000*l.* will be required to do all that needs to be done. The church and court have special points of interest in connexion with the times of Wycliffe.

Tarporley.—The work of restoring the parish church of Tarporley is progressing towards completion, the work having been going on for nearly eleven years. The first step towards the restoration was taken in the chancel, which, after being almost entirely rebuilt, was re-opened in 1867; the nave, after similar treatment, was re-opened in 1871; and now the last portion of the work has been commenced in the rebuilding of the tower, the foundation-stone of which has been laid by the Countess of Haddington. The entire cost of the works of restoration already completed has been—for the chancel, 1,427*l.*; for the nave,

2,896*l.*; for the organ chapel (built by the Earl of Haddington), 1,000*l.*; re-seating, 300*l.*; and lighting, 100*l.*; and now it is expected the restoration of the tower will cost about another 2,550*l.*, making a total of 8,273*l.* The church, although of considerable antiquity as regards its foundation, has a history which is very uneventful and purely local. The architect for the tower is Mr. Crowther, of Manchester, who has been the architect for the rest of the restorations, and the contractor Mr. James Fleet, of Tarporley.

Broxted.—The parish church of Broxted, near Dunmow, has been re-opened, after restoration. The work has been carried out under the direction of Mr. J. Clarke, diocesan architect, and the contract taken by Mr. W. Smith, of Eldon Works, Kennington, for the nave, in the sum of 1,320*l.*, of which 900*l.* have been secured. A special contract was entered into for the chancel for 800*l.*, which has been restored at the sole cost of Mr. Richard Benyon, of Englefield House, Berks, the lay impropriator of the parish.

Geldesion.—The chancel of Geldeston Church has lately been re-seated with carved oak benches from designs by Mr. Penrice, of Lowestoft. The work has been executed by Mr. Botwright, of Bungay. Captain Kerrich, of Geldeston Hall, the liberal donor of the altar-rails of brass, has enriched the church with these seats. He presented six oak trees from his estate at Geldeston for this purpose, one of which, a splendid tree, afforded two tons of bark. The contract for the work was 80*l.*

Beaminster.—After an examination of the walls and roof of the tower of Beaminster Church, Mr. William White, of London, reports to the churchwardens that he finds "Considerable substantial repairs necessary for the preservation of the structure." For the due execution of these, including scaffolding and incidental expenses, he estimates the cost at about 350*l.* He further reports that "There are also various restorations (such as the pinnacles and the decayed enrichment of the tower) which are very desirable for the sake of appearance and of completion." The cost of these he estimates at about 650*l.*, including scaffolding and incidental expenses. A committee has been appointed to collect funds to carry out the work.

Earl's Barton.—The works connected with the restoration of the well-known Parish Church at Earl's Barton have been discontinued. We learn from the *Northampton Herald* that up to the present time nearly 5,000*l.* have been expended upon the restoration. The nave, chancel, south aisle, and porch are finished, and the Perpendicular screen has undergone repair, the old damaged carving having been replaced, where required, with new material. A portion of the screen has been elaborately decorated, "causing it to appear scarcely in keeping with the other parts of the sacred edifice." The north aisle has not yet been brought under the hands of the restorers, and the tower (well known as a specimen of Saxon work) remains at present untouched. The architect under whose directions the work of restoration has been carried out is Mr. Carpenter, of London.

Ilfracombe.—The Church of St. Philip and St. James has been enlarged. Various plans were suggested, but ultimately Mr. James Fowler, architect, of Louth, Lincolnshire, who is at present engaged in the restoration of Georgeham Church, was consulted, and he saw that a north aisle might be added to the chancel with advantage. The church, which is situated under Capstone, was originally built (about thirty years ago) from the designs, and under the superintendence of Mr. Hayward, of Exeter, and its architecture is of the Perpendicular period of Gothic. Referring to the details of the work which has been done, we may say that externally the new aisle is built with materials from the old north wall, the three stained glass windows being reinstated precisely as they were taken out,—two of them in the south side, the other in the east end. A new doorway adjoining the tower gives admission to the worshippers. The roof, of pitch pine, is open, and consists of four principals, supported by wall-pieces, resting on stone corbels, with rafters between them, boarded and covered with lead. A new arcade of three arches in Bath stone occupies the place of the old north wall, supported on two columns of polished Devonshire marble, 8 ft. 3 in. high and 1 ft. 9 in. in diameter, and surmounted by caps carved in natural foliage. The total cost of the work, including the bells, is estimated at about 1,200*l.*, of which about 300*l.* are still to be obtained. Mr. Pulford, of Barnstaple, is the contractor for the whole of the work; under him, Mr. Gammon, of Barnstaple, has done the woodwork; Mr. Collins, of Ilfracombe, the wall masonry; and Mr. Harding, of Ilfracombe, the plumbing and ironmonger's work.

DISSENTING CHURCH-BUILDING NEWS.

Walsall.—The memorial-stones of a new Wesleyan Chapel in course of erection in the rapidly-extending and populous district of Caldmore were laid on the 11th ult., the site fronting to Corporation-street. The building, which is to be cruciform in shape, is designed in the Early English style, and the external elevations are to be executed in red selected bricks, jointed black, with Hollington stone dressings. Internally, the dimensions will be,—length, 80 ft.; width across the nave, 42 ft.; and across the transept, 66 ft.; height to ceiling, 35 ft. The architects are Messrs. Loxton, Brothers, Wednesbury; and the builders are Messrs. Rowley & Lynex, who have taken the contract at 6,332*l.*, including boundary-walls and palisades.

Elloughton.—The foundation-stone of the new Congregational church at Elloughton, which is being erected upon the site of the old edifice, was laid on the 6th ult. by Mr. Evan Fraser, M.R.C.S. Mr. S. Musgrave, of Hull, is the architect, and Mr. J. Musgrave is the contractor, the amount of whose tender is 1,380*l.*

Landore.—The foundation-stone of the new Siloh Congregational Chapel, Landore, has been laid. The new chapel, which will have a north aspect, will be built in the Lombardic style, from designs by Mr. Thomas Freeman, architect, of Brynhyfrid, and the tender of Mr. Thomas White, builder, has been accepted for its erection. It is intended to afford sitting accommodation for 1,000 persons. The contract price is 4,700*l.*, but some extras, such as the surrounding walls, &c., will swell the entire cost to 5,000*l.* The front will be built of native blue stone, relieved with Bath stone pilasters and dressings, and with Mansfield arches and columns to the windows.

Hatfield Heath.—The opening services of the new Congregational chapel at Hatfield Heath were held on the 19th ult. The edifice has been constructed from designs by Mr. Banks, architect, the contractor being Mr. W. C. Cornwell, builder, of Bishops Stortford. It is in the form of a parallelogram, having a staircase at each of the four corners. To a certain extent the Gothic style has been followed. The exterior walls are faced with flints, relieved with Bath-stone dressings to the windows. A flèche used for ventilation rises from the ridge of the roof. The interior arrangements allow of sitting accommodation on the ground floor for 250, and a gallery runs round the sides and one end of the building, giving room for 200 more. An organ-chamber and choir-gallery occupy the other end, where the pulpit also rises into prominence. The total cost is 4,000*l.*

Romford.—The first step towards the erection of the new Congregational chapel, in South-street, Romford, was taken on the 24th ult., by digging the trenches for the foundations. Messrs. Staines & Co., of London, have been commissioned to carry out the designs of the architect, Mr. E. C. Allam. The building is to be of Gothic character, and surmounted by a small slated spire. The cost will be 3,210*l.*

Cupar.—On the 19th ult. the foundation-stone of the new Free Church now in course of erection on an elevated site north-east of the Bonnygate U.P. Church, and about fifty yards back from the street, was formally laid by Lady Baxter, of Kilmaron. The church is built by the legacy of 7,500*l.* which was left to the congregation for the purpose by the late Sir David Baxter, of Kilmaron. From a number of competing plans a design by Messrs. Douglas & Sellar, architects, Glasgow, was selected by the Deacons' Court, to whom the congregation deputed the duties of procuring a plan and seeing after the erection of the edifice. The church, which is to be of the mixed Gothic style, will be a commodious structure, and will be surmounted by a spire, 135 ft. in height.

Newport.—The memorial stones of a new Wesleyan chapel in the Cemetery-road, Newport, were laid on the 17th ult. The chapel, with school and class rooms, is to cost 1,500*l.*, of which about 900*l.* are now promised or in hand. Messrs. Bidlake & Fleeming, Wolverhampton, are the architects, and Mr. Ashley, Newport, is the builder.

Rawtenstall.—On the 15th ult. the foundation-stone of a school-chapel for the Baptists of Rawtenstall was laid by Mr. John Crabtree. The cost of the new building will be about 1,000*l.* Land has been secured for a future chapel, and the schoolroom is being erected at the back of the plot. Accommodation is provided for 250, and in a gallery over the vestries is provision for 80 children. Messrs. Tate & Popplewell, of Manchester, are the architects; and Mr. James Walton, of Rawtenstall, is the builder.

Worksop.—The new Congregational church at Worksop was opened on the 18th ult. The building is in the Free Gothic style, with a nave, side aisles, and apse. The roof is open timbered. The length of the church without the apse is 68½ ft. with a width of 40 ft. The apse is 17½ ft. deep by about 14 ft. wide in the front. The whole of the space inside the apse is occupied by what may be called "the minister's platform," in the front of which is the reading and preaching desk. The seating of the church is of pitch pine, stained and varnished, and will accommodate about 450 persons. The school in connexion with the church is not yet finished. It will have a short frontage in line with the church, and will be in its design in keeping with the church. The contractors for the buildings are Messrs. Redfearn & Son, of Worksop.

Books Received.

Building Construction: showing the Employment of Brickwork and Masonry in the practical Construction of Buildings. By R. Scott Burn. W. Collins, Sons, & Co., London and Glasgow. This book is intended to form a sequel to an elementary volume on the same subjects previously published by the author. "Like the preceding volume, this concerns itself with much that is also elementary, and this in order to be in conformity with the syllabus of the Department of Science and Art, on which its arrangement is based; but it takes the student several steps further on in the study of the subjects. In these he is introduced not only to a higher and wider class of practical work, but to the consideration of the introductory elements of the theories upon which certain departments are based." This is the author's description of his object, which the book fairly fulfils, though more in the way of practical example and suggestion than of theory. It is not, however, very systematic in arrangement, and it is difficult to say for what class of readers it is precisely suitable. Those who wish to get some general insight into the processes of building will find plenty of information and diagrams, perhaps more than they care to go through: those who take it up as a text-book for serious study of the subject will hardly find that it meets their requirements. As it seems to us, a book of this class should be either purely rudimentary, or it should be thorough and exhaustive; a treatise that is neither the one nor the other it is difficult to find a proper place for. The book is, moreover, somewhat old-fashioned in some points; the employment of bond timber in walls, for instance, is admitted to be considered objectionable by many authorities, but as much observation is devoted to it as if it were a necessary part of the subject, instead of being, as it is, a practice entirely condemned by experience. In the remarks on pointing it is stated that "some prefer to point the outer joints at the same time as the building progresses,—that is, while the mortar is soft; others after the wall has been for some time completed, and the mortar is hard"; to which the author adds, "this latter is the better practice," but gives no reason for saying so. As a matter of fact, the process of filling the joints with mortar for show, after the working mortar is dry, is one of the most silly fashions of modern building; and whatever advantage of effect it is supposed to have is short-lived, and requires the trouble and expense of frequent renewal. The chapter on arches is most specially open to the objection we have raised above; it professes to go into the subject, but in so empirical and illogical a manner as to be of little use. In a chapter on "miscellaneous illustrations of work in stone" we have specimens of the various styles of Gothic window, though there is no possible reason given for picking out this special feature in Gothic architecture and no other for illustration; it only seems as if the author thought some Gothic windows would look well on the page as illustrations. The drawings convey no idea of the real spirit of Gothic work, and give no sections of mouldings; and the speci-

men given of a window in what is called the "transitive" style (by which we suppose "transitional" is meant) is like nothing in heaven or earth. This, however, is the usual fault with practical books when their authors attempt dealing with the art side of the subject. The best part of the treatise is the description of the various species of brick bonds, and of masonry; and information about foundations, concrete building, and qualities of different stones, is given in a compact form. But as a whole the treatise is a specimen of the art of what is called "book-making."

Technologisches Wörterbuch, in Französischer, Deutscher, und Englischer Sprache. By Alexander & Louis Tolhausen. Leipzig: Tauchnitz.

This is the German-English-French version of an international dictionary of equivalent technical terms in those three languages, compiled by Herr A. Tolhausen, translator at the Patent Office in this country, and revised by Herr L. Tolhausen, French consul at Leipzig. The compilation of such a dictionary must have been a work of immense labour, as the reader may imagine when we mention that it contains nearly 950 closely printed three-column pages, giving the equivalents in three languages of every class of technical expression used in arts, trades, and commerce (*die in Kunst, Gewerbe, und Handel vorkommen*). The usefulness of such a book, to those whose business or profession leads them from one country and from one language to another, can hardly be over-rated; especially as many of the terms used are ignored, almost necessarily, in ordinary dictionaries of language compiled from the literary point of view. We owe the more debt to those who have taken the trouble to compile such a book, inasmuch as it is one of those works in which the consciousness of having done good service must be the author's chief reward; a publication of this kind, though involving a great deal of hard and uninteresting labour, seldom bringing much of either fame or profit to those who have toiled over it. To pronounce authoritatively whether the book is accurate and full in its treatment would almost involve going over again the labours of its compilers; but as far as we have had time to examine it we can testify that it bears every mark of care and thoroughness in treatment. The authors print as a motto on the cover the inscription placed on the Bell in Schiller's celebrated poem,—"*Concordia soll ihr Name sein.*" We hope the value of the Technological Dictionary will be recognised, and that it will prove widely useful. We may observe that no English publisher's name is appended to the copy sent to us: we presume this is an oversight.

Roads, Streets, and Pavements. By Q. A. Gillmore, A.M., Lieut.-Colonel U.S. Corps of Engineers. New York: D. Van Nostrand. London: Trübner & Co.

On such a subject as this the author necessarily borrows the experience of European countries. He is, however, able to give as much as he takes, especially in the matter of street railways, and he here gives the chief particulars of certain horse-railway companies for the year 1873, the examples being selected so as to afford information respecting the operation of such railways in the crowded streets of cities as well as on ordinary roads. The particulars are given first in respect of the cost of construction of the railways; and, secondly, of their maintenance, including the working expenses and the amount of the revenue; and in estimating the cost of maintenance and working, here or elsewhere, the facts obtained from the experience with existing roads are the only safe guides.

Grosvenor House Gallery.—The Duke of Westminster is desirous that designers, artisans, and the like, employed in any branch of art applied to productive industry, should have the opportunity of inspecting Grosvenor House, with its works of art, daily, including Sundays, during the months of August and September, 1876, from two p.m. to six p.m. He regrets that, for want of room, he cannot extend the admission beyond the persons specified. Various manufacturers and others engaged in the production of decorative art have consented to issue tickets of admission, according to the restriction which it has been necessary to lay down.

Miscellanea.

Proposed Alterations at Southwell Minster.—After many years' delay, the Ecclesiastical Commissioners some little time ago resolved that the work of restoration at Southwell Minster, Notts, should be proceeded with, and brought to a speedy conclusion. Their architect, Mr. Christian, forthwith furnished a plan, the main feature of which appeared to be the removal of the choir stalls, throwing open to their full length the chancel aisles, which he proposed should be fitted with chairs. It was supposed that by this arrangement there would be accommodation in this part of the church alone for about 700 people, and that this number would scarcely be exceeded on ordinary Sundays. Mr. Christian further suggested that the nave should be reserved for special occasions. The estimated cost is 22,000*l*. According to a correspondent of a Nottingham paper, the Commissioners, having examined these proposals, forwarded them to the bishop of the diocese for his opinion. The bishop consulted Mr. G. E. Street, R.A., who could not endorse Mr. Christian's plans, believing that æsthetically and ecclesiastically they were wrong. Mr. Street's proposal is said to be to retain the choir stalls, so to lighten the screen as to make it as little of an obstruction as possible both to seeing and hearing in the nave; to place the pulpit so that the preacher shall be visible and audible in the chancel and nave at the same time; to place the singing men and boys where, he says, they were originally intended to be, on the screen; to have a small organ on each side, and to remove the great organ to some place which could easily be provided for it. The bishop, at a recent gathering of clergy and gentry, wished any person who was competent to express an opinion on such a matter. Only one gentleman did so at the time, and he did it with clearness and force. He advocated the separation of choir and nave, as now, partly because, in his judgment, they were always intended to be separate; partly because, since the human voice ordinarily reaches only about sixty yards forward and half that distance backward, a great deal of space would be lost, so far as preaching is concerned, if the pulpit were placed, as it is proposed by Mr. Street to be, somewhere in the transept.

Nijni-Novgorod.—The great Russian fair, which sixty years since was transferred to Nijni-Novgorod from its ancient locality in the meadows near the monastery of Macarieva, comes to a close early in September. Mr. Doria, secretary of the British Embassy at St. Petersburg, reports that it is calculated that a million persons visited the fair last year, and about 150,000 of them were resident at a time, for a longer or shorter period, during the fair. The value of the merchandise actually sold at the fair has risen from 49,000,000 roubles in 1847 to 165,090,000 in 1874. In the last-named year upwards of 6,000 shops were let. The wholesale trade in iron, in different forms, amounted at the fair in 1874 to 5,557,800 poods of 36 lb. each, sold for 15,955,000 roubles, equal, at 33d., to 2,193,812*l*. Tea of the value of upwards of 10,000,000 roubles was also sold. Along the banks of the lake enormous pyramids of chests of tea are heaped upon the ground, covered only with matting made from the inner bark of the birch tree. These chests of tea, called "taibiki," are so packed as to be impervious to rain or damp. Outside the ordinary wooden chest is a covering of wicker-work of cane or bamboo, round which, at Kiakhta, raw bull-hides are tightly stretched, with the hair inwards. These chests arrive at Nijni from China. Large sales are made of corn and of leather at the fair, of fruits from Persia, of madder and wine from the Caucasus, and of coffee and skins from Bokhara.

Wooden Houses.—The Fowlis-Wester correspondent of the *Perthshire Constitutional* writes that the Messrs. J. & T. Wilson, wood merchants, Bonnybank Sawmills, Denny, have now commenced to cut and manufacture the timber in the Back Wood purchased by them some time ago. They are allowed five years to cut the wood. Houses have been erected on the moor for their workmen, the sides and gables of them being clad with lining on both sides of a 4-in. standard, and the intermediate space filled with sawdust. The roof is covered with sarking deals, with felt on the top. These houses are lighted by means of small windows placed in the sides.

The Haseley Waterworks.—A Leamington paper states that these works have *again* come to a standstill, the contractor having discharged the whole of his men, and taken up the position of *non possumus*. This position is said to be owing to the decision of the engineer. The contractor maintains that he undertook to lay the iron main between two given points, about a mile, in accordance with the plans and sections furnished to him, which show that the main was to be laid with a uniform gradient towards Warwick. Part of this line is in running sand, at a considerable depth, of which some 350 yards remain to complete. To avoid the heavy expense, the engineer proposes to jump over this bed of sand by means of a syphon, and orders the contractor to carry it out under the powers given to him in the contract. The contractor, it seems, disputes this power, but will carry out the work on condition of indemnification for results, and compensation for his outlay. This is the second contractor for the work who has stopped, the first contractor having stopped on account of a dispute as to the price to be paid for working in hard strata. (See *Builder*, Dec. 11, 1875, p. 1115.) Legal proceedings are pending, a writ having been issued against the corporation at the instance of the first contractor.

"Wide" Tendering.—At a meeting of the Bethnal-green Board of Guardians on the 1st inst., one item of business was the opening of tenders for the carrying out of certain works for the preservation and adding to the security of the large water-tank at the top of the workhouse infirmary, which, according to a report recently presented by the surveyor, weighs when charged about 50 tons. The tenders submitted were as follows:—

Marshall	£123	0	0
Parnell	60	0	0
Stamp & Bowtle	49	0	0
Wire	30	0	0
Judd & Hawkings	25	0	0
Thomerson	17	10	0

A short conversation took place, in the course of which surprise was expressed at the great disparity in the amount of the tenders, and Mr. Thomerson's representative was called in, and asked whether he had carefully gone through the specification, and was prepared to execute the work for the sum named, to which question he returned an affirmative reply. The tender of Mr. Thomerson was accepted.

An Incident in a Life.—A correspondent writes:—"On Sunday, July 9th, there entered Christ Church, Cork, and took a seat where his family (an English family, some time resident in that city) a very long time ago worshipped, a white-headed man, who held in his hand a Prayer-book, one of those presented to the young of both sexes by the 'association' formed at the beginning of the century (and still existing) 'for Promoting the Knowledge and Practice of the Christian Religion.' It contained his name and an engraved tablet; for it was awarded to him as a prize at a competitive examination in that church, and bore the date 1812. Sixty-four years have passed since then. He had kept the prayer-book all that time. He read from it the service, substituting the name of Queen Victoria for that of King George III., and gave thanks to God for blessings of a long, a successful, a happy, and a very busy life, the fruit, these blessings may have been, of seed planted by the book given to him sixty-four years ago. The white-headed man was Mr. S. C. Hall."

Surrey Archæological Society. — This society held its annual meeting on the 3rd inst., at Godalming, under the presidency of Viscount Midleton. The party proceeded in carriages to visit Thursley, Elstead, and Peper Harow. A paper on the antiquities of Godalming was read by Mr. Ralph Nevill, F.S.A., after which the parish church was visited, and some remarks made by Major Heales, F.S.A. Thursley Church was described by Mr. Nevill, and Mr. Charles Baily gave an explanation of the old timber construction. At Elstead an interesting paper was read on "Elstead and its Church," by the Rev. Charles Kerry. At Peper Harow, the residence of the president, the Hon. George Brodrick read a paper upon its antiquities. The church was also visited, and some notes on the monumental brasses were given by Major Heales. In the evening the party dined at the Public Hall, Godalming.

New Municipal Buildings at Leicester.—New municipal buildings, erected at a cost of about 50,000*l*., were opened at Leicester on Monday last by the Mayor.

The Proposed Vestry Hall at Penge.—The *South London Press* learns from a circular issued by Mr. Elkington, who, it will be remembered, was lately appointed architect of the new Penge vestry offices, that after the remarks made by a vestryman at a recent meeting, alleging that some of the members were taken by surprise in the matter of his appointment, and that with further opportunity for discussion a different result might have been arrived at, he has determined "to discontinue acting any longer under the authority of the resolution passed on the 26th ult." (June). By removing every obstacle as far as he is individually concerned, he wishes to afford the Vestry the opportunity of dealing hereafter with the appointment of an architect as freely and unfettered as if the resolution had not been passed. To a statement that prior to the Vestry meeting held on the 26th of June he had announced himself as the architect of the new buildings, he gives the most unqualified and positive contradiction.

John O'Groat's House: The New Hotel. A new hotel is now in course of completion at John O'Groat's, so that visitors to the "end of the world" may have adequate accommodation for rest and refreshment. The new hotel is built facing the east, with an octagonal tower reaching a considerable height, the rooms in the interior retaining the "John O'Groat's House" shape. The proprietor of the Duncansbay property, Mr. Thomson Sinclair, has planned and erected the hotel, which, though not very extensive, affords a very considerable amount of accommodation, and *is* exceedingly comfortable. There are three good public rooms well finished, and affording a splendid prospect, the tower-room having windows on five sides of the octagon. There are six comfortable bed-rooms and other conveniences. When everything is completed there will be abundant stabling and other outhouses.

Ordnance Survey of Derby.—The Ordnance survey of the town and county of Derby, by the Royal Engineers, is progressing satisfactorily, and a station, or "crow's-nest," of timber has been erected at the summit of All Saints' Tower for the purposes of the survey. The staging of timber on the top of the tower has been erected by a detachment of civil assistants in the employ of the Government at Southampton, under the superintendence of Mr. Buckle, and upon it will be fixed a tent, or observatory, containing the instruments necessary for the undertaking.

The Water Question at Hastings.—A few days ago the solicitors of the Rev. J. A. Hatchard applied to the Home Secretary, stating that their client felt so apprehensive of his safety that he dared not enter the borough even to apply for a warrant. A reply was sent by the local authorities that there was no reason whatever to fear a breach of the peace. Telegrams from some person or persons were also sent from London to the local authorities, and to private residents of the town, that an attack with Greek fire and catapults was meditated on Mr. Hatchard's property.

Reredos at St. Stephen's, Clewer.—A new reredos has just been erected at the east end of the chancel of this church, at a cost of about 400*l*. It is the gift of two anonymous donors. The subject is the Vision of St. Stephen. At the bottom are two medallions, in one of which St. Stephen is represented praying for his murderers, and in the other, he is being carried by devout men to his burial. The painting of "The Good Shepherd," which has hitherto been affixed to the east wall as an altar-piece, has been removed.

Judges' Lodgings for Swansea.—The *Cambrian* calls attention to the utter absence of a suitable residence for her Majesty's judges when visiting Swansea. It would appear that the want has long been admitted, and that not only has the site been selected and approved, but plans have been prepared and sanctioned. Strange to say, however, nothing more appears to have been done. Meanwhile, the town is in danger of losing the assize sittings altogether, unless adequate accommodation be provided.

Royal Horticultural Society.—The meeting last week resulted in the adoption of a resolution moved and seconded by the Hon. C. S. Butler and Mr. Shirley Hibberd, advising the Council to make the best arrangements in their power to effect a complete separation of the Society from her Majesty's Commissioners, and to dissolve the connexion with South Kensington.

Beggar's Knap, Dorchester.—The Lords of the Treasury have given their sanction to the scheme of the Corporation of Dorchester for leasing a portion of the land known as Beggar's Knap for building purposes. Their lordships, however, expressed the hope that, in deference to the strong feeling entertained by the inhabitants, some condition should, if possible, be attached to the grant of the leases by which all the trees, or, at any rate, those worth preserving, should be left standing.

Whitworth Scholarships.—The following is a list of candidates successful in the competition for the Whitworth Scholarships, 1876, in connexion with the Science and Art Department: Henry S. H. Shaw, engine-fitter, Bristol; Robert Greenhalgh, mechanical engineer, Atherton, near Manchester; John Ryan, engineering student, Newport, Monmouthshire; William H. Williams, draughtsman, Swindon; John W. B. Wright, pattern maker, Hull; Jerdan Nichols, mechanical engineer, Over Darwen.

An Old Servant.—We are told of the death of Mr. Thomas Sharp, head foreman to the well-known firm of Messrs. T. & H. Hartley, of the Westminster Marble Works. He died suddenly on Saturday, the 5th inst., of heart disease, after the long and faithful servitude of more than forty years. In consequence of the great and varied experience he acquired during this long period, he was looked up to as an authority in his craft as a marble mason.

Hygeopolis is to be the name of the "City of Health" projected by a joint-stock company to carry out the proposals of Dr. Richardson in his address on the Hygienic Utopia last year. It is asserted that a site has been selected on the coast of Sussex, and operations are to be commenced forthwith. We hope it is not a merely speculative "dodge" which the amiable doctor has been drawn in to cover. It looks very like it.

Sawing Machinery.—At the Aberdeen show of the Highland and Agricultural Society of Scotland, Messrs. Wurr & Lewis, of 16, Walbrook, London, were awarded a first-class prize-medal for recent improvements in their patent combined circular and band sawing machine for hand-power. The same firm also exhibited a new combined general joiner and band-sawing machine, a most useful tool, and one which seems capable of turning out a large amount of work.

The Sewerage of Winchester.—The Town Council of Winchester have decided to adopt sewerage for the city at an estimated cost of 32,500*l*. The system to be adopted is intermittent downward filtration, supplemented by irrigation, according to plans by Mr. J. Lemon, C.E. If found advisable, the sewage will be conveyed from the outfall by steam power.

Cambrian Archæological Society.—The annual meeting will be held at Abergavenny, on Monday, the 14th inst., and the four following days, when excursions will be made to all parts of interest in the county, and meetings in the evening for the purpose of hearing papers read. A temporary museum is also being formed, to be held at the Town Hall during the week.

Polytechnic Institution.—A very pleasant and useful account of the Philadelphia Exhibition, fully illustrated, is given at the Polytechnic, by Mr. B. J. Malden, F.R.G.S., who went to America for the purpose. Professor Gardner, too, delivers a very good lecture on Combustion. "More Wonders in Wonderland" seems to us a little under the mark, though Mr. George Buckland is a practised hand.

Liverpool Corporation Exhibition of Pictures.—The autumn exhibition of pictures, which has now become one of the "institutions" of Liverpool, will (according to the local *Journal*) be opened to the public on the first Monday in September. It is anticipated that the exhibits of this year will quite equal, if they will not surpass, those of former years.

New Law Courts for Liverpool.—The *Liverpool Journal* understands that the Government have given notice that they will require the land on which Victoria Hall stands given up to them on the 31st inst. The land was purchased by the Government as a site for new law courts, and it is presumed that the erection of the courts will be proceeded with immediately.

Toughened Glass, according to the *Gardener's Magazine*, is promised by a method differing from that of M. Bastie. It is the invention of Herr Pieper, and consists in tempering the glass, while red hot, with superheated steam.

London and County Bank.—The report of the London and County Banking Company for the half-year to June 30th, states that after paying all charges and allowing for rebate and for bad or doubtful debts, there is a profit of 130,988*l*., or, with the balance brought forward, 145,719*l*. An interim dividend at the rate of 16 per cent. will absorb 120,000*l*. of this, leaving 25,719*l*. to be carried forward.

William Dawbarn & Co.'s Trade Book. As this firm are slate, timber, tile, and iron merchants, their trade book, published monthly, becomes a tolerably comprehensive "Builders' Price Book." Moreover, it includes a considerable number of illustrations.

The First Commissioner of Works.—It is stated by the London correspondent of the *Birmingham Gazette* that Mr. Gerard Noel will succeed Lord Henry Lennox at the Board of Works.

TENDERS

For additions and alterations to the Rose and Crown, Stoke Newington. Mr. Williams, surveyor:—

Hanley	£740 0 0
Eaton	690 0 0
Marr	677 0 0
Hearle & Son	664 0 0

For alterations and additions to the workhouse in Bancroft-road, Mile-end, for the Guardians of the Hamlet of Mile-end Old Town. Mr. J. M. Knight, architect:—

Webb (Hanover-road)	£7,2?5 0 0
Webb (Stratford)	5,657 0 0
Grieves	5,547 0 0
Perry	5,178 0 0
Judd & Co.	5,089 0 0
Ennor	5,044 0 0
Co-operative Builders' Society	5,000 0 0
Hearle & Son	4,736 0 0

For taking down and rebuilding the Cherry Tree public-house, St. Leonard's-road, Bromley. Mr. J. M. Knight, architect:—

Ennor	£2,216 0 0
Palmer	2,211 0 0
Judd & Hawkings	2,191 0 0
Hearle & Son	1,875 0 0

For the erection of a dwelling-house, &c., at Bromley Kent, for Mr. Thomas Roberts. Mr. Geo. T. Howell, architect. Quantities supplied:—

	Dwelling-house.	Billiard-room.
Crabb	£3,765 0 0	£288 0 0
Patrick & Son	3,750 0 0	290 0 0
Richards	3,655 0 0	297 0 0
Toms	3,500 0 0	272 0 0
Co-operative Builders' Society	3,161 0 0	246 0 0

For alterations and additions to the Gothic, Highgate-road, for Mrs. Glover. Mr. A. Bradley Rooke, architect. Quantities supplied:—

Temple & Forster	£705 0 0
Henning & Son	697 0 0
Axford	665 0 0
Daintoa	597 0 0

For alterations and additions at No. 45, Kensington Park Gardens, for Mr. Arthur Arnold. Mr. C. N. Beazley, architect:—

Staines & Son (accepted)	£350 0 0

For pulling down and rebuilding new beerhouse, St. Dunstan's-road, Stepney, for Mr. Wingfield. Mr. Wm. Scott, architect:—

J. & H. Cocks	£598 0 0
Sheffield	595 0 0
Palmer (accepted)	587 16 0

For alterations and additions to the Fountain public-house, Clapton, for Mr. Lincolin. Mr. William Scott, architect:—

Sheffield (accepted)	£530 0 0

For residence at Cliff's-end, Thanet, for Colonel Whitehead. Mr. William S. Barwick, architect:—

Horne	£3,879 0 0
Brown	3,810 0 0
Harrison	3 563 0 0
Paramor & Son (accepted)	3,2?? 0 0

For rebuilding the Red Lion, Duke-street, Manchester-square, for Mr. Raemens. Messrs. W. E. Williams & Son, architects:—

Hearle & Son	£1,795 0 0
Ennor	1,690 0 0
Anley	1,630 0 0
Eaton	1,588 0 0

For alterations to the Falcon Tavern, Knightrider-street. Mr. W. Nunn, architect. Quantities not supplied:—

Hyde	£1,181 0 0
Veale	1,175 0 0
Drew	1,125 0 0
Lamble	829 0 0

For building a gardener's cottage in Gensing Gardens, St. Leonard's, Hastings, for the Hastings Urban Sanitary Authority. Messrs. Jeffery & Skiller, architects. Quantities supplied:—

Parks	£725 18 0
Eldridge	720 0 0
M'Connell	717 15 0
Livermore	696 0 0

For erecting house and studio, for Mr. Colin Hunter, Holland Park, Kensington. Mr. J. J. Stevenson, architect. Quantities supplied:—

Pritchard	£5,289 0 0
Scrivener & White	5,190 0 0
Nightingale	5,183 0 0
Hearn	4,900 0 0
Tyerman	4,594 0 0